FACEBOOK AND YOUTH@SG: ONLINE PRIVACY AND PERSONAL INFORMATION DISCLOSURE

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Summary

With the proliferation of social networking sites (SNS) such as Facebook gaining a foothold in Singaporean youths' daily lives, Singaporean parents and educators are seeking to better understand the different facets of social interaction in SNS. In particular, the issue of youths' safety online has been of interest to parents, policymakers and educators.

For the purpose of this study, research questions revolve around two pertinent issues of concern regarding Singaporean youths' usage of Facebook, currently Singapore's most popular SNS. I seek to understand:

i) whether youths are utilizing Facebook's privacy safeguards, and
ii) the extent and nature of personal information revealed in their Facebook profiles.

Understanding youths' privacy perceptions based on their privacy safeguards and level of personal information in Facebook, as well as Singaporean parents' online privacy perceptions and knowledge of their children's levels of information disclosure in Facebook can aid in ascertaining if there exists a difference in attitudes towards online privacy and personal information disclosure between Singaporean parents and youths. Ascertaining this will in turn aid in bridging the differences in perceptions, if any, between parents and their teenage children, thus facilitating discussions when parents guide their teenage children in online safety. Results from the study will also provide valuable input when formulating policies and planning online safety campaigns.

Results from the two-pronged approach of content analysis and online surveys indicate that Singaporean parents are generally aware of their teenage children's habits and level of personal information disclosure. Both Singaporean parents and youths are privacy-oriented, but youths are willing to compromise some privacy in order to allow their peers understand them better via Facebook.

Youths are aware and do utilize Facebook's privacy safeguards but there exists a disparity between what they think they know and what they actually know about the privacy settings which should be noted. In terms of the extent and level of personal information disclosure, Singaporean youths reveal more personal information in their public profiles than private profiles. However, they are also more discerning about the types of personal information they reveal in Facebook and utilize creative methods to mask their personal information.

My findings indicate that there is no great disparity in privacy perceptions between Singaporean parents and youths and that there is already ongoing dialogue between parents and youths online safety. This creates a conducive environment for parents to discuss with their youths about online safety without intruding into youths' practices of identity management in Facebook.

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Chapter 1: Introduction

1.1 Introduction

With the advent of Web 2.0, we see a tremendous increase in social media usage. The rise of blogs and other user-generated content outlets such as Youtube for videos and Flickr for photos have been gaining popularity not only because they allow for users to create and upload their work, but also because they provide the option to share their content with others. This has contributed to the internet being used in an increasingly social manner. Interactivity and inter-connectedness are synonymous with the most popular activities online today.

One of the most frequently used social media these days is social networking sites (SNS). While the term used to include blogs, video and photo sharing websites; SNS today usually refer to websites such as MySpace, Multiply, Friendster, Orkut, LinkedIn and Facebook. Such websites have elements of blogging, video and photo sharing embedded within them though their main feature is to explicate one's social network and displaying links between users.

While terms such as "poking", "throwing sheep" and having virtual food fights might have drawn perplexed responses two years ago, these terms have become part of the daily activities conducted in popular SNS today. The feverish popularity of such websites has no doubt piqued the curiosity and interest of many students as well as young working professionals. "Poking" and "throwing sheep" are just some of the many activities one can engage in Facebook,

currently one of the most popular SNS used to socialize with both family and friends, expanding and organizing existing offline social connections while building new ones.

Besides allowing for communication among the ever-widening circles of both youths and adults, another draw of SNS is how they allow for the convergence of different online tools: emailing, messaging, website creation and customization, dairies, photo albums, music or video uploading and downloading. Technology has become a platform where different types of applications can be used, for the same purpose of socializing. SNS do not come with a prescribed way of using the technology, but rather, permit customization, depending on the preferences of the users. This has allowed for users to explore the affordances of SNS, to pick and choose which tools to use for socialization. This has also resulted in a new set of online demographics, where people from the same demographic group offline may use SNS differently, based on their interests and preferences.

The rise of SNS has drawn the attention of not just media scholars, but also the media, as seen from the increasing coverage of the SNS phenomena in newspapers. Advertisers and businesses are also interested to see how they can leverage on SNS to get their messages out to their target markets in a manner that is most accessible to their consumers. Educators are interested in whether they can incorporate SNS in their syllabus to capture their students' attention and sustaining their interest while carrying out classes effectively. Even political

figures are creating a presence in SNS so as to better reach out to their constituents; with the 2008 American elections demonstrating this point. Therefore this interest in SNS requires more in depth investigation and research as we need to better understand SNS and how it is being used, especially among today's highly mediatized youths. This is because youths use SNS to not just socialize, but also to build and try out different ways of portraying themselves in their online profiles.

In Singapore, a lot of media coverage in the last two years have been on SNS and how Singaporean youths use SNS. The exponential increase in Facebook users, especially among the youths, has drawn a lot of attention from parents as well as educators who have sought to better understand why youth in Singapore are so active on SNS. Parents are also concerned about its potential for misuse, given cases reported in the news of Singaporean youths engaging in racist activities on Faacebook (The Straits Times, 2010) and cyberbullying (The Straits Times, 2010). There is, however, a lack of information obtained via formal academic research on youths' use of SNS in a local context, though there have been studies have been conducted overseas, especially in the States. This may be attributed to the States as being the country where some of the most popular SNS such as Facebook were created and are still very popular. The SNS culture over in the States and its steady uptake have allowed for researchers to conduct studies on the SNS technology and users. This paper aims to value-add to existing studies done on SNS and youths in a Singapore context.

The Facebook fever hit Singapore in 2008 with students and young professionals rushing in droves to sign up. As of July 2008, Singapore was in the top ten countries with the highest Facebook penetration rate (Facebook.com, 2008). Facebook has also become the third most visited website in Singapore in April 2009 (Hitwise Asia, 2009). Thus there is a need to understand this growing interest in SNS in Singapore. Such interest in SNS will have spillover effects in the social, economic and even political domains. Local business operations will be affected (Cheney, 2008), the public sphere will experience changes as well (Sullivan, 2008) and even the way people conduct relationships online and offline will be affected (Magid, 2008). The far-reaching effects of SNS behoove the need to further examine SNS in the Singaporean context.

Another concern that has arisen from the rise of SNS in Singapore is that of youths' safety online. Issues such as online sexual solicitation targeted at youths have been of concern to parents, educators as well as governments as they are concerned that youths are vulnerable to such deviant acts, especially sexual solicitation. Therefore, this paper hopes to bridge the gap, by understanding the knowledge about SNS parents and their children, as well as how youths portray themselves online, if they are savvy enough to protect themselves online and how youths utilize SNS settings to protect their personal information and their level of information disclosure in SNS.

This research thus specifically seeks to answer the following questions:

RQ1: Do Singaporean youths adopt privacy safeguards in Facebook?

RQ2: What is the extent and nature of information disclosure by Singapore youths in SNS?

RQ3: To what extent are Singaporean parents aware of the nature of personal information disclosure by their teenage children in Facebook?

RQ4: How safe do Singaporean parents perceive their teenage children to be in Facebook?

RQ5: Are there disparities between youths' and parents' perceptions of the risk of personal information disclosure vis a vis Facebook?

For the rest of Chapter One, context for this study is set by providing background information on the basic features of SNS, how SNS became a worldwide phenomenon and in particular, the rise of Facebook and how Facebook differs from other SNS. The parameters for this study shall also be defined.

Chapter Two shall discuss the demographic group for this research: youths. The history of this demographic group, the issues related to youths, especially identity formation and negotiation, which are predominantly active in this demographic. Literature discussing youths in the online environment shall be examined as well, to set the framework for this study. Issues such as youths and

online identities, online pornography and sexual solicitation shall be the focus as they are relevant to the SNS environment that is the context of this research.

For the third chapter, concepts related to SNS shall be examined, as well as the conception and context of SNS, its evolution and current state. The literature review will discuss concepts in social science and communication studies that have been used in previous SNS studies and related concepts such as identity formation, contextualizing in the SNS as well as privacy and surveillance issues in SNS that are especially applicable to youths. There will be a brief discussion of policy implications from conducting research on youths and SNS.

Chapter Four rounds up the literature review by compiling a coherent theoretical framework for privacy and information disclosure. Based on existing scholarship, the concept of privacy is examined in the context of social network theory. Information disclosure is also drawn into the discussion and privacy literature on parents and youths are discussed, including on-going debates on youths and online privacy. The chapter concludes with research questions that seek to understand how youths portray themselves online as well as their perceptions of online privacy vis a vis their parents'.

Chapter Five explicates the research methods involved in the study. Based on secondary research and considering from a myriad of research methods the

most suitable research method for the study, a combination of different quantitative research methods are used to address the research questions.

Chapter Six synthesizes the results from the content analysis of Facebook profiles and discusses the findings and their relevance in answering the research questions. It concludes with how the findings value-add to current literature as well as lend to the framework for the online surveys

Chapter Seven provides analyses of the data collected from the online surveys to first establish youths' as well as their parents' perception of offline and online privacy. Following that, findings from the surveys shall be utilized to demonstrate if there exist any disparities on online privacy perceptions between Singaporean youths and parents.

Chapter Eight shall conclude the study by discussing the limitations of the study as well as its contribution to the research done thus far on SNS. Proposals and suggestions for future studies shall also be addressed in this chapter.

1.2 Background information: What is a Social Network Site (SNS)?

Computer Mediated Communication (CMC) refers to communication that occurs via computer technology (Monberg, 2005). CMC is an excellent way to participate in social networks in today's networked society. Social networks exist both on and offline and involve people planning and cultivating business,

social contacts, and personal relationships (Villar, Juan, & Capell, 2000; Carroll & Rosson, 2003; Carter, 2005; Nardi, 2005; Anderson & Emmers-Sommer, 2006).

Like many emergent technologies, SNS are difficult to define as they usually have an amalgamation of features from other successful web applications. These sites, which include Facebook and MySpace, are fairly new. Such websites usually have applications that are software applications used within SNS but are not standalone social network applications (Vie, 2007).

A distinctive feature of SNS is that they exist in computer mediated environments which rely on social software applications to allow individuals to build their virtual profiles, make connections with other members and establish nodal relationships among selected user profiles (boyd, 2004). A definition which was proposed by boyd and Ellison (2007) mentioned basic features of SNS which included "(1) a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection and (3) view and traverse their list of connections and those made by others within the system." This definition captures the crux of SNS, which is the explicating of relationships' interconnectivity.

Members of SNS create profiles or virtual personas to network and connect to other members. These sites exist to facilitate the formation of social ties, may

they be strong (familial bonds and very good friends) or weak (acquaintances and co-workers one does not know very well) (Granovetter, 1973).

A unique feature of SNS is how most SNS users do not use SNS to meet strangers, but rather, SNS enable users to articulate and make visible their existing social networks. This reinforces the idea of latent ties (Haythornthwaite, 2005) being present in SNS and how SNS are not usually used to initiate relationships between strangers though the technology might allow for such activities to take place.

1.3 Basic features of SNS

With the plethora of technical features available on SNS, the primary function is that of visible profiles which display a list of "Friends" who are also users of the system. Such profiles consist of webpages where one can "type oneself into being" (Sunden, 2003, p.3). The user will be asked to fill up information pertaining to one's location, background, education, age and interests. Photo uploading is also encouraged to complete one's online SNS profile.

Some sites allow for customization of the profile pages with multimedia tools while others such as Facebook allow users to add modules or applications. The user also yields control over the level of privacy of one's profile page. Profiles of some SNS come up as results on search engines as open search results and some SNS require users to pay to maintain a level of privacy. Facebook's approach to

users' privacy is different from other SNS as by default; users in the same "network" can view each others' profiles unless the profile owner increases his/her privacy settings. Such different approaches to privacy and access are avenues of differentiation between SNS (boyd & Ellison, 2007).

All the relationships will be under a Friends list in SNS. Thus the term "friends" in the SNS context can be misleading as it does not reflect the levels which people are connected. The depth of such relationships is therefore neglected and generalized. However, although the public listing of friends may be misleading, it is a critical component of SNS as it provides links to the profiles of one's Friends that allows for users to traverse from profile to profile; thus going through the different networks of different users by clicking on the various profiles. Again, this is subject to the privacy settings of most users and for most SNS, the longer the SNS has been around, the more private the profiles become.

Most SNS also provide the feature of private and open messaging, where users can leave messages on their friends' profile or to leave them a private message. This feature usually involves leaving "comments" or "posts" on their friends' profiles. For Facebook, private messages allow for more than one friend to be messaged simultaneously.

1.4 World-wide SNS phenomenon and the rise of Facebook

Even as MySpace captured the attention of the American and international media, other SNS were proliferating and gaining popularity all over the world. Friendster gained a strong user base in the Pacific Islands, Orkut became the most popular SNS in Brazil before taking off in India as well (Madhavan, 2007). Mixi gained support in Japan, likewise for LunarStorm in Sweden, just as the Dutch users adopted Hyves as their national SNS. Hi5 became popular in Latin America and South America and Europe, Bebo also captured the United Kingdom, New Zealand and Australia SNS market (boyd & Ellison, 2007).

Unlike previous SNS, Facebook started out to support university networks only. Facebook began in early 2004 as a Harvard-only SNS (Cassidy, 2006). Only students with a Harvard email address were allowed to sign up with the SNS. Later Facebook opened up registration to other universities and education institutions, with the aim to keep the SNS exclusive and it was perceived to be a private and closed community (boyd & Ellison, 2007). In September 2005, Facebook expanded to include high school students and eventually opened up to anyone with an email address.

1.5 Background of Facebook

Facebook, introduced in 2004 by Harvard student Mark Zuckerburg has an international following of more than 400 million active members as of July

2010[1]. Presently, Facebook is the most used social network by worldwide monthly active users, followed by NewsCorp's MySpace (ComScore.com, 2010).

Facebook is highly integrated into the daily media habits of its users: the typical user spends about 20 minutes a day on the site and two-thirds of them log in at least once a day (Cassidy, 2006). Taking advantage of the success of its launch among the college-going population, Facebook launched a high school version in early September 2005. The following year saw the introduction of communities in the website such as Microsoft, Amazon and PepsiCo (Barton, 2006).

From the exponential growth of Facebook within a span of a few years, we can see how quickly Facebook expanded once it made itself more accessible and available to the masses. Facebook underwent an overhaul in July 2008 and proceeded to officially launch its revamped website which received generally negative feedback from most Facebook users. Facebook underwent another facelift to improve its privacy settings in early 2010. Despite Facebook's recent spate of criticisms over its handling of users' personal information and privacy settings, it not only managed to retain most of its users, its number of active members continues to increase steadily.

[1] Statistic obtained from http://stanford.facebook.com/press/info.php?statistics

1.5.1 Facebook features

One of Facebook's most distinctive features is its News Feed. Instead of the usual newsfeed where one gets information on the latest news events, News Feed contains the latest information as well as snippets of tidbits about the friends who are on one's Facebook's list of friends (Fig. 1 and 3 in Appendices).

Users are also able to view other friends' profiles and the activities they are engaged in. This can be seen from brief updates from the friends as well as photos and video postings and comments from friends of friends are also available for viewing (Fig. 3 in Appendices). On top of this, users are also able to do most of the basic networking actions such as sending private messages, posting public messages on the Fun Walls, or "poking" friends to incite a response from them (Fig. 2 in Appendices). Facebook is filled activities to engage one's friends as well as information on one's friends, from getting help in social games such as Mafia War and Farmville to the events their friends on Facebook are attending. This has brought interactivity to a new level as now, SNS users are able to contribute to take screen shots of their activities in social games such as Farmville and contribute to content generation in the SNS. (Fig. 3 in Appendices.)

It is interesting to note that one is able to restrict the viewership of one's profile in Facebook, where one can limit the access to one's profile to users in the Friends list. Other users will only be able to view a limited profile of the user.

This feature is used more frequently as Facebook now allows anyone with an email address to register.

1.5.2 What sets Facebook apart from other SNS

How does Facebook distinguish itself from the other online social networking websites? danah boyd, a social media analyst at Microsoft, puts it across best when she mentioned that the initial concept of Facebook was actually a groundbreaking effort to link up students in the Ivy League universities. It became a "key piece of the social infrastructure" in such institutions (The Straits Times, September 2007). According to Zuckerburg, the motivation for setting up the website was to address "a social need at Harvard to be able to identify people in the other residential houses" (Moyle, 2004). This initial exclusive nature of Facebook was what set it apart from similar websites such as MySpace.

Finally, the unique activities which are carried out only in Facebook, such as social games like Farmville, has allowed Facebook users to develop a set of lingo which is Facebook-specific. Such applications allow Facebook to develop a self-sustaining model.

1.6 Popular online social networking websites in Singapore

There are hundreds of social networking websites, each with a slightly different look and feel. Some of the more popular websites in the Singaporean context include Friendster, which is open to the general public; MySpace, which is well-known for being the launch pad of many bands as well as Western mainstream

singing artistes. From Fig 2, (re Appendices), the most popular SNS in Singapore are Friendster and Facebook, which are utilized by mainly Secondary School, Junior College, Polytechnic and University students, though it has also recently witnessed an influx of organizations creating a presence in the online community (Wong, T., 2007). As of Dec 2008, Facebook as overtaken Friendster as the top SNS in Singapore (Hitwise.com, 2008).

Chapter 2: Literature review on youths and their online culture

It is pertinent to discuss the demographic group of youths for this study. The idea of youth is a complex one because there is no general definition or consensus on what youths encompasses. The idea of youths will be discussed in this chapter, along with its relationship with the Internet and how the idea of an online culture is crucial to this demographic, which is one of the most active groups online today. For the purpose of this study, the terms "students", "youths" and "teenage children" are used interchangeably to refer to teenagers of secondary school-going age, i.e 12 years to 17 years old.

2.1 Youths

2.1.1 The idea of a generation

Although the term youths was coined in the 1920s and later made popular in the 1940s by advertisers, the idea of youths should be examined in the context of generations. Edmunds and Turner (2002) provide the basis for a sociological and historical theory of generations. They define a generation as "an age cohort that comes to have social significance by virtue of constituting itself as a cultural

identity." (p.7) Similarly, Bordieu (1993) argues that generations are socially and culturally defined and produced.

Different generations will have different tastes, orientations, beliefs and dispositions, which led to the invention and use of a category like "Generation X" (and its subsequent mutations), reflecting both the importance and complexity of age –based distinctions in a contemporary consumer culture (Ulrich & Harris, 2003). Therefore, by extension, the concept of youth is essentially and social and historical construct, rather than a universal state of being (Buckingham, 2008).

Besides world events such as wars and economic depressions, the media and consumer culture have played a central role in the defining and redefining of generational differences and identities (Buckingham, 2006). In fact, in attempting to escape the limitations of normative psychological accounts, there has been a growing emphasis on how the media, and the way media is used, contribute to defining the meanings of age differences (Jenkins, 1998; Buckingham, 2005). Australian cultural theorist Wark (1993) argues that "generations are not defined by war or depression anymore; they are defined by media culture" (p.75), which is very apt in today's media-heavy consumerist post industrial economy.

An indication that we are in a consumerist rather than technology-deterministic world today is how for most young people, technology today is a relatively

marginal concern. Most youth use technology without being aware that they are using technology. Very few of them are interested in technology in its own right and most are simply concerned about what they can use it for (Buckingham, 2006; Herring, 2008).

Technology provides new ways of forming identity. The generational differences are seen to be produced by technology rather than a result of social, historical or cultural forces (Tapscott, 1998). While this may seem like a sweeping statement, it does affirm that technology has an impact on one's identity and especially for today's Singaporean youths, who are digital natives and whose daily lives revolve around technology.

2.1.2 Identity formation and negotiation

Identity is a very broad and ambiguous concept, yet it focuses attention on critical questions about personal development and social relationships – questions that are crucial for our understanding of youths' growth into adulthood and the nature of their social and cultural experiences (Buckingham, 2008). The online platform provides youth today an avenue to experiment with their identities online; this explains why youths spend a lot of time online.

The notion that social structures shape identity is at the heart of sociological theory (Agger, 2004). When this concept is applied to children's lives, they are the subjects of a whole set of social structures, some of them at home, some at school and some at their virtual spaces. The interplay between each of these

structures shapes the self in various ways, and the impact of each structure on the other is a dialectic process (Thomas, 2007). It is this interplay that may be reflected in youths' online identities.

New technologies are a good place to start investigations on how youths negotiate their identities online. For many youths, especially in industrialized nations, digital media are significant modalities through which they are seeking, consciously or unconsciously, the answers to identity questions, questions which Buckingham and Sefton-Green (1994) describe "the me that is me".

Thus, a youth's identity online is about the authoring of self as a living-out of these states of being, becoming, belonging and behaving through a range of everyday social and discursive practices that are connected with the body. Yet it is also about a close editing of self, the aspects of self to be shared with the public (Thomas, 2007). The reason why youths practice editing of themselves is due to youths' digital productions are mostly viewed or consumed by youth audiences, the group who are producers themselves. They are their own audience. There is reflexivity to this process, a conscious looking, not only at their production (themselves), but also how others view their productions (Weber & Mitchell, 2008).

The formation of identity often involves a process of stereotyping or cognitive oversimplification that allows people to distinguish easily between self and

other as well as to define themselves and their group in positive ways (Buckingham, 2008). Walther and et. al. (1994) proposed a social information processing theory which supports this, that regardless of the medium, people experience the need to reduce uncertainty and increase affinity.

Goffman (1959) makes a distinction between personal identity and social identity, as though collective identifications or performances are different and disparate from the individual ones. This process of performance, interpretation and adjustment is also known as impression management, which is part of a larger process where people try to define a situation through their behavior (boyd, 2008; Stern, 2008). This concept is relevant to youths' use of digital media, where performances are necessitated due to the lack of physical cues online. However, not only is the online environment not impersonal due to the lack of physical cues, it can be creative, especially when people use it to assert their own identities and explore new means of self-presentation (Baym, 2002).

In some sense, youth have more control online as they can choose what information to put forward, though once the information is online, it may be subject to misinterpretation. Through their SNS profiles, youths can express certain aspects of their identity for their peers to see and interpret. They construct their profiles for their friends and peers to view and because there is a link between their online and offline communities, youths are inclined to present the side of themselves they believe will be well received by their peers.

It is interesting to note though that youths, teenagers in particular, often fabricate key identifying information like name, age and location to protect themselves. While parents' protection groups encourage such deception to protect children from strangers (Donath & boyd, 2004), many teenagers actually engage in this practice to avoid the watchful eyes of the more tech-savvy parents (boyd, 2008). Teenagers feel that SNS should be their private space online while most parents disagree with this notion as they believe that nothing posted online is private. Teenagers feel that just because anyone can access their SNS site does not mean that everyone, including parents, should. How are teenagers supposed to be "cool" to both their peers and their parents simultaneously on their SNS? (boyd, 2008). This is an interesting contention as it indicates to some extent, youths' perceptions of online privacy vis a vis their parents' perceptions.

As SNS like Facebook develop and grow, there is a trend of SNS becoming communities of practice, which, according to Wenger and Synder (2000), are informal groups of people bound together through a shared passion for a joint enterprise. This is due to the popularity of multi-player social games on SNS such as Restaurant City and Mafia Wars on Facebook, where one can invite friends to join the game to help complete tasks. These communities of practice allow youths to explore their identities not just as individuals, but also their role and status in communities, as one of the most important aspects in shaping online

identity is related to the sense of community and belonging to the online community (Thomas, 2007).

From present literature on communities of practice, we see how youths' technical skills are not the only skills at issue in these domestic communities of practice. Equally important to parents are the emotional competence and vulnerability of the youths (Holloway & Valentine, 2003) and how they may be exploited while online.

2.2 Concerns about youth online

Presently, there are two main ongoing discourses about youth online. Critics of digital technology view it as threatening, even destroying childhood. Youths are seen to not only be more exposed and vulnerable to online pedophiles, but also from a range of negative physical and psychological consequences derived from them using the technology (Healy, 1998; Armstrong & Casement, 2000). Advocates of digital technology, on the other hand, see it as a tool to liberate youth, to bypass the influence of their elders and create their own autonomous space and forms of communication; which will result in a more open, democratic, creative and innovation generation (Buckingham, 2008). Parents tend to lean towards the critical view of digital technology but are also aware that the technology is here to stay and it is to their children's benefit to familiarize themselves with the technology.

Parents are keen to improve their children's educational prospects, but are also concerned about online dangers (Turow & Nir, 2000; Livingstone, 2002; Facer et al., 2003). Also, media attention today more often alerts the public to the potential risks and dangers of the Internet and by association, SNS; stimulating discussions on how to regulate or restrict children's Internet use (Livingstone & Bober, 2006). Many of these risks and opportunities are not new to society, they are, arguably, more immediate and widespread, especially for children, than was the case of previously new media (Flichy, 2002; Livingstone, 2002).

The prevailing concern that parents have is how Internet use may lead their children to become isolated from others, expose them to sexual and/or violent images, displace more worthwhile activities and risk their privacy. At the same time, most believe that the Internet can help their children do better in school and learn useful knowledge. This is the reason why they have domestic Internet access in the first place (Turow & Nir, 2000; Livingstone & Bovill, 2001; Buckingham, 2002). Therefore a challenge faced by parents is how to balance their concern in implementing safeguards for their children online while not depriving their children of the advantageous potential of the Internet.

From studies conducted, parents, it appears, underestimate the risks their children are experiencing online. Children, on the other hand, underestimate the regulatory practices their parents attempt to implement. Parental anxieties tend towards being ill-informed and ineffective in supporting regulation. Children's

enthusiasm for the new medium is resulting in some risky behaviors (Livingstone & Bober, 2006). Therefore, media scholars are trying to find a middle ground where parents are aware of the risks their children are experiencing online without causing panic and for children to rein their enthusiasm and to use the technology responsibly.

2.2.1 Online sexual solicitations

Many studies have been conducted on youth and online sexual solicitations, as this is a real online danger that is faced by youths, who may not be equipped emotionally to deal with predators online.

A study conducted in the States in 2008 by Ybarra and Mitchell indicated that 15% of 1588 youths reported an unwanted sexual solicitation. Such solicitations are more common in instant messaging and chat rooms, and harassment usually took place in instant messaging than through SNS. The results of this study corroborated with the Youth Internet Safety Survey which also found that 25% of youths reportings an unwanted exposure to sexual material.

Possible repercussions of youths who received an aggressive sexual solicitation were also mentioned in the studies. They were almost 2.5 times as likely to report experiencing physical abuse, sexual abuse or high parent conflict (Wells & Mitchell, 2008). Most girls in Halloway and Valentine's 2003 study are most likely to break parental rules by talking to strangers, reflecting their preference

for using ICT for communication. This also suggests that girls are more susceptible to online sexual solicitations.

2.2.2 Internet and health-related problems

Internet use has become an area of concern by parents as well as educators and physicians as illnesses associated with prolonged Internet use surface. A study conducted by Wolak, Mitchell and Finkelhor (2003) indicated that girls who had high levels of conflict with parents or were highly troubled were more like than other girls to have close online relationships, as were boys who had low levels of communication with their parents or who were highly troubled, as compared to other boys. Youths with these problems may also be more vulnerable to online exploitation or other possible ill effects of online relationships.

Another study conducted in Hong Kong indicated that heavy Internet use of more than four hours a day has also been associated with lower likelihood of engaging in health-promoting physical activities such as exercising and seeking medical care. Multiple risk behaviors such as skipping meals and sleeping late have also been related to heavy Internet use (Punamaki and et. al., 2006; Kim and et. al., 2009). The effects of prolonged Internet usage affects not just relationships and youths' mental health, it also extends to their physical health.

A youth-related Internet study conducted in the Netherlands indicated that for adolescents who perceive low friendship quality, Internet use for communication purposes predicted less depression but Internet use for non-

communicative purposes resulted in more depression and more social anxiety (Selfhout and et. al., 2008). The implications for this study involve not only the impact of Internet usage, but also the different motivations for Internet usage.

Another high-risk youth group is youth aggressors/targets who are intense users of the Internet and view themselves as capable web users. Beyond this, however, these youths report significant psychosocial challenge, including depressive symptomatology, problem behavior, and targeting of traditional bullying (Ybarra & Mitchell, 2004). The findings of this study associate intense users of the Internet with the lack in social skills.

Chapter 3: Literature review on SNS

SNS span across different disciplines and fields, from technology to the social sciences and they involve issues such as online privacy and identity formation. Therefore the literature review for SNS also reflect the multi-disciplinary nature of SNS, from social sciences to computer science to marketing and privacy and surveillance.

3.1 SNS research to date

Given the multi-disciplinary nature of SNS, the areas of research associated with SNS traverse the boundaries of social sciences, humanities, law, business, communications, and computer sciences. The surge in SNS-related research conducted in the last three years has resulted in a plethora of materials for references as well as identifying gaps which have yet to be addressed by

academic research. Therefore to come up with a comprehensive framework involving online privacy, there is a need to look beyond just privacy and SNS literature but also other literature involving SNS.

So far, areas of research associated with SNS and social sciences include social capital (Wellman, et al; 2001; Ellison, Steinfield & Lampe, 2006; Valenzuela, Park & Kee, 2008), management and presentation of virtual identities (Marwick, 2005; Donath & boyd, 2004; Hewitt & Forte, 2006; DiMicco & Millen, 2007; Gosling, Gaddis & Vazire, 2007; Booth, 2008; Bryne, 2008; Evans, Gosling & Carroll, 2008; Geyer, et al., 2008; Papacharissi, 2009; Walther. Et al., 2009), music culture and SNS (Beer, 2008; Suhr, 2009) the concept of community in SNS (Choi, 2006; Fono & Raynes, 2006; Dwyer, 2007; Immorlica, 2007; Yuta, Ono & Fujiwara, 2007; boyd, 2008; Hancock, Toma & Fenner, 2008; Ryberg & Christiansen, 2008; Chun, et al., 2008; Papacharissi, 2009) and politics and civic engagement (Gueorguieva, 2007; Harris, 2008)

Besides the social sciences, articles from computing sciences and technology have produced papers on the different user groups on SNS (Valkenburg, Peter & Schouten, 2006; Hargittai, 2007; Humphreys, 2007; Lee & Bruckman, 2007; Arjan, Pfeil & Zaphiris, 2008; Chapman & LaHav, 2008; Murthy, 2008), the use of SNS for measurement and analysis (Ahn, et al., 2007; Hsu, et al., 2007; Mislove, Gummadi & Drushel, 2007; Mislove, et. al., 2007; Das, et al., 2008; Jones, et al., 2008; Murthy, 2008; Wilson & Nicholas, 2008) , the affordances of SNS

technology (Immorlica, et al., 2007; Felt, et al., 2008; Gjoka, et al., 2008; Nazir, Raza & Chuah, 2008) as well as papers on the network structure of SNS (Downes, 2005; Backstrom, et al., 2006; Backstrom, Dwork & Klienberg, 2007; Golder, Wilkinson & Huberman, 2007; Hsu, et al., 2007; Lampe, Ellison & Steinfield, 2007; Schiller & Mandviwalla, 2007; Snyder, Carpenter & Slauson, 2007; Trusov, Bucklin & Pauwels, 2007; boyd, 2008).

The affordances of SNS technology have also been covered in specific industries such as healthcare (Cain, 2007), education and library sciences (Tosh & Werdmuller, 2004; Chu & Meulemans, 2007; Goodwin, 2007; Ryberg & Christiansen, 2008; King & Brown, 2009), affirming the ubiquity of SNS.

Areas of research from the domains of law and business cover advertising (Bradford, 2008; Trusov, Bucklin & Pauwels, 2008), business online communities (O'Muruchu, Bresline & Decker, 2004), incorporating SNS into business strategies (Enders, et al, 2008), intellectual property rights applied to SNS (Newkirk & Viehauser, 2008; Latham, Butzer & Brown, 2008; Sithigh, 2008) and privacy, information disclosure and trust concerns (boyd, 2004, 2006; Andrejevic, 2005; Gross & Acquisit, 2005; Hodge, 2006; Stutzman, 2006; Christ, Berges & Trevino, 2007; Dwyer, Hiltz & Passerini, 2007; Strater & Richter, 2007; Vie, 2007; boyd, 2008; De Souza & Dick, 2008; Genova, 2009).

From the literature review on SNS, many articles and papers are found to be inter-disciplinary, drawing on the specialized knowledge of different fields.

3.1.1 Virtual communities and the network effect

Rheingold (2000) explains virtual communities as social aggregations that emerge from the Internet when enough people carry on public discussions long enough, with sufficient human feelings, to form webs of personal relationships in cyberspace. boyd and Heer (2006) studied the network effect and found that personal connections in SNS are homogenous in nature. When people socialize, they are attracted to others who are similar to them, thus reinforcing the idea of homophily being present in SNS connections (Turchi, 2007).

3.1.2 Community, culture and civic engagement

Given the affordances of SNS, a platform that makes it easier for people to connect and interact, the areas of community, culture and civic engagement make for relevant research topics. This is because SNS being an online community phenomenon which has only gained prominence in recent years has a culture is different from other online cultures due to the activities and its users; the reach of SNS allows certain demographics of the population to promote certain civic causes and in the course of doing so, promoting civic engagement. The differences among the various SNS have propelled studies like the one conducted by O'Murchu, Breslin and Decker in 2004, which classified the various SNS and evaluated their features and functionality.

A qualitative study that illustrated the interdependency and interactions of members in a SNS was conducted to explore how subjects use social networking sites and instant messenger to engage in interpersonal relationships. The results indicate that attitudes towards privacy and impression management, when mediated by technology, translate into social interactions (Dwyer, 2007). Therefore while online communities such as SNS are mediated by technology, individual members' values are also vital in determining the types of interaction that take place.

Media scholars have also expressed concern over how the different values and cultures in SNS might be overshadowed by overemphasizing on the affordances of SNS technology (Suhr, 2009). This is a valid point, especially as offline values might be transferred online. The different values and cultures in SNS will become more apparent over time, as SNS is a participatory medium. This will affect the ways that users use SNS.

3.1.3 Social Capital

SNS are distinguished from the first wave of virtual community websites as they allow for the maintenance of existing social ties and formation of new connections. A characteristic of the early research on CMC and virtual communities in particular is the assumption that individuals using this system will be connecting to those outside their pre-existing social group or location, which liberates individuals to form communities around shared interests, as opposed to shared geography (Wellman, 1996).

The relationships present in online communities are instances of what are known as "weak ties". Weak ties are "are acquaintances who are not part of your closest social circle, and as such have the power to act as a bridge between your social cluster and someone else's" (Cervini, 2003). Weak ties created at random in this way lead to "supernodes", individuals with many more ties than other resources.

Some preliminary empirical studies have been conducted to measure the extent to which users use SNS to maintain existing ties or to form new ones. Facebook-specific studies indicate that certain kinds of Facebook use appear to facilitate maintenance and formation of social capital of all kinds. A study conducted by Ellison, Steinfield and Lampe (2006) indicates that Facebook is used by its users to make new friends, as well as keep in touch with old acquaintances.

3.1.4 Identity, self-presentation and contextualizing in SNS

In her ethnographic work examining self-presentation and social connections among Friendster users, boyd (2004) notes that users have a variety of motivations for using the website, including connecting with old friends, meeting new acquaintances, dating and furthering professional networks. In one of the few studies to examine this new form of online communication, Donath and boyd (2004) point out that one of the chief hallmarks of these sites is that links between individuals are “mutual, public, unnuanced and decontextualised” (p.

72). In the SNS examined, public displays of connections serve to warrant, or indicate the unreliability of the information provided in the online profiles.

Along with the features of online communities, members of SNS also have to create and interpret context, and learn now to "converse through profiles" (boyd & Heer, 2006, p.5). Due to the decontextualised nature of the online virtual environment, members rely on the interactions with other members and digital bodies, which are artifacts of digital performance, in order to create the context of a digital environment.

Network effect is also influential in this context as members of SNS usually join after receiving multiple invitations from different friends. boyd's study also concludes that SNS such as Friendster and MySpace support homophily, where members are generally from the same sub-groups and also that internal homophily is reinforced when members invite their friends whom they think will fit in with the image they want to portray in the online social networking websites, people similar to themselves (Turchi, 2007). The concept of negotiating an unknown audience is an important one that affects how members of SNS decide to portray themselves to members of the different social groups.

According to boyd (2006), the process of developing and interpreting context is simultaneously a foundation for communication and a conversation itself. Conversations occur when people engage others. By altering their profiles to

engage other users, SNS users are setting the platform for conversation and communicating. Profiles are effectively public performances that are limited by the level of privacy set by the users; they are used both as conversation starters as well as the conversation among users. Also, other parts of the profile, such as the comments written by friends and posted publicly for other members to view and the use of photographs and videos also feature prominently in SNS such as Facebook. These different elements make up one's profile online and the sum of the information of these tools forms the basis of communication and conversation in SNS.

For youths, participating in SNS helps in strengthening their cultural identities, teaching them to navigate both the public and private dimensions of their racial lives. Much like the world offline, participating in online cultural communities help youths develop a healthy sense of racial identity, what psychologists argue is necessary to resist the effects of racism (Bryne, 2008). Another study revealed that while younger teenagers relish the opportunities to recreate continuously a highly-decorated, stylistically-elaborate identity, older teenagers favour a plain aesthetic that foregrounds their links to others, thus expressing a notion of identity lived through authentic relationships (Livingstone, 2008). Such findings aid in understanding why youths portray themselves the way they do in SNS.

Impression management is very much used in SNS. Some studies have lent credence to the importance of impression management and how it consciously

being applied in SNS. Evans, Gosling and Carroll (2008) demonstrated that various profile elements are effective in conveying information about the personality of the profile owner and that several specific elements of profiles are associated with increased or diminished levels of rater-target impression agreement. How users manage self presentation while maintaining social relationships in heterogeneous networks (DiMicco & Millen, 2007) is thus an important factor to consider when discussing impression management in SNS.

Profile elements are important in SNS as they present an image to the people in their Friends List, which may consist of a mix of family members, classmates and colleagues. The emphasis of some profile elements has been examined in a study on narcissism. It was found that narcissism is manifested in SNS and is measured by the quantity of social interaction; main photo self- promotion and main photo attractiveness (Buffardi & Campbell, 2008). Some profile elements may predict friendship links (Lampe, Ellison & Steinfield, 2006) and this is significant because how the users perceive themselves will be very likely how their close acquaintances view them (Gosling, Gaddis & Vazaire, 2007).

Therefore, opinions of friends matter in a SNS environment; users depend on SNS for recommendations and validating of opinions (Geyer, et al., 2008). A study conducted supports this, revealing that friends' comments overrode self-comments, supporting warranting theory exclusively. This will have implications on the potential effects of social comments on a variety of new information

forms (Walther, et al., 2009). Emphasizing certain profile elements and revealing certain personal information help shape the opinions of other users of oneself in an SNS environment, which may explain why some users spend more customizing their SNS profiles.

From the literature review conducted thus far, we can surmise that there are existing areas of research about SNS although their findings may be preliminary. However, SNS may be more interdisciplinary than the other areas of research for CMC as it is an amalgamation of the various applications of CMC. This in turn translates into opportunities to address the gaps in terms of research. Furthermore, the large number of highly embedded users, a unique-geographically-bound target audience, high visibility of the technology, and widespread public concern regarding the use and abuse of SNS, merits further research to be conducted on this phenomenon.

3.2 Framing policy-relevant research

In the context of new media research, while particular systems come and go, how youths engage through SNS will provide long lasting insights into identity formation, status negotiation and peer to peer sociality (boyd, 2008). This is because SNS has combined elements of the Internet previously studied in singularity on one platform while introducing new elements of Web 2.0. However, this is not to say that researching on SNS is without its challenges, especially when looking at youths and SNS, an area with potential policy relevancy.

The idea of responsibility have caused concern; not only how to apportion such responsibilities, but also how to ensure coordination across them. Within this, a key point of contestation is how far to devolve responsibility from the state to the industry (via self regulation) or to the individual citizen (mainly parents) (Livingstone & Bober, 2006). To answer this, research needs to be conducted to review the current situation now and whether the Singapore government's current light touch approach (MDA, 2010) is enough or if greater enforcement and policing is required.

While conducting research, caution is needed to prevent supporting the relentlessly optimistic view of some literature that ignores the downsides of the online medium. Also, a realistic understanding of youths is required, to avoid assuming a wholly positive or negative view of their critical intelligence and social responsibility. The anxieties of some parents about what their teenage children may do or encounter online are exacerbated by the parents' own lack of ICT skills (Holloway & Valentine, 2003). This needs to be acknowledged to prevent falling into the fallacy of cyberpanic.

There may be some dissonance between youths' perceived danger online and their parents, caregivers and educators (Herring, 2008). This suggests that while looking at the responses of the majority of youths, the perceptions of the

minority youths, while constituting a small number, may warrant a close inspection as well.

Chapter 4: Privacy, social network theory and information disclosure

Based on the literature review thus far on youths and SNS, it can be gleaned that youths' safety on SNS is of concern to parents, educators and the governments, who are concerned that youths may be revealing too much of their personal information online. With the rising adoption of emerging technologies such as SNS, privacy is recognized as a growing concern, but privacy studies are generally limited by the lack of conceptual frameworks (Palen & Dourish, 2003).

4.1 Concept of privacy

Westin (1967) posits that people have a need for privacy, which together with other needs, allow us to lead well-adjusted lives with others. Westin's concept of privacy is both dynamic (continually adjusted to suit momentary needs and role requirements) as well as non-monotonic (there can be too little, too much or sufficient privacy). It is important to note that Westin's concept of privacy is neither a self-sufficient state nor an end in itself, but rather, it is a means of achieving the overall end of self-realization. Westin's theory suggests four functions of privacy – solitude, intimacy, anonymity and reserve (1967).

An indicator of Westin's influence in his contribution to privacy theory is his development of scales to measure privacy. The robustness of Westin's insight

into the culturally universal aspects of privacy and the meaningfulness of the concept of privacy in describing behavior has received supported from other researchers (Altman, 1977; Klopfer &Rubenstein, 1977). Altman (1975) value-adds to the discussion of privacy theory by explaining the concept of privacy as a process of regulating levels of social interaction.

Both Altman and Westin take into account how individuals and groups control access to themselves; that privacy is a dynamic concept. They also agree that privacy can take on various forms that are culturally specific. The difference between Altman's and Westin's theories on privacy lies in how Altman's theory is relatively inclusive of the privacy phenomena while Westin's theory focuses more on information privacy. As this study pertains to information disclosure on Facebook, Westin's privacy measures are arguably more relevant and applicable.

On a psychological level, privacy provides opportunities for self-exploration and experimentation, which aids in the development of individuality (Westin, 1967). It provides experiences which support normal psychological functioning of stable interpersonal relationships as well as personal development. When privacy is invaded or violated, it is lost. Invasions and violations of privacy may result in one's personal information ending up in the wrong hands. The detriment incurred varies, depending on the content of the information (Margulis, 1979). Individuals who have lost their privacy may face stigmatization, where they are accorded lower status and face discrimination

and prejudice (Crocker, Major & Steele, 1998). Therefore the concept of privacy is intricately linked to information disclosure.

Privacy, traditionally defined as, the 'interest individuals have in sustaining personal space free from interference by other people and organizations' (Tavani, 1999), has attracted many theories and definitions in the online context. Such elastic and sometimes vague definitions stem from the increased need for disclosure online due to the nature of the Internet and have raised a number of privacy concerns

Westin conducted surveys in the 1980s, which found that the public's concerns about privacy threats have increased dramatically since the 1960s, with almost half of the survey respondents reporting that by the end of the decade that they were "very concerned about threats to their personal privacy." Westin then classified his survey respondents into three categories: privacy fundamentalists (people who are very concerned about their privacy); privacy pragmatists (people who are concerned about their privacy but are willing to trade some of it for something beneficial) and privacy unconcerned (people who are unconcerned about threats to their privacy) (Kamaraguru & Cranor 2005).

By 2003, the number of privacy pragmatists had risen by 10 percent to 64 percent of those surveyed. At the same time, privacy unconcerneds dropped from 22 percent to 10 percent (Taylor, 2003). This shift towards privacy

pragmatism may reflect a paradigm shift in privacy perceptions and warrants further research, especially for the online environment, where tradeoffs for privacy may come in various forms.

4.2 Social network theory and privacy

For this study, the concept of privacy is studied in the context of the social network theory. The relationship between privacy and social network is multi-faceted. Sometimes, we want our information to be known by a small circle of close friends and not by strangers; under other circumstances we reveal personal information to anonymous strangers, but not to close friends.

Previous social network studies touched upon the relevance of relations of different depths and strengths in social network (Granovetter, 1973; 1983) and the importance of weak ties in the flow of information across different nodes in a network. Network theory has also been used to explore how distant nodes can get interconnected through relatively few random ties (Milgram, 1967,1977; Watts, 2003). The application of social network theory to information disclosure, and by association, privacy choices in online social networks, indicates differences between offline and online social networks.

Offline social networks are made up of weak or strong ties, which are on a continuum in terms of how close and intimate the relationships are. Online social networks break down the nuanced offline connections to simplistic online

relationships – one is either a friend or not (boyd, 2004). The paradigm of friendships changes online, where thousands of SNS users may be classified as friends of friends and have access one's personal information. This results in an imaginary community of online social networks (Anderson, 1983).

Online social networks are also more leveled, as the same information is accessible to more friends whom one is close to at various levels but such nuances are not explicated online. This contributes to a paradox when it comes to privacy. While privacy is conducive and necessary for intimacy (Gerstein, 1984), intimacy includes the revealing of private information to some but not to others, trust decreases within an online social network. Intimacy online refers to the sharing of personal information with large numbers of offline friends and strangers (Gross & Acquisiti, 2005). Thus, the chances for meaningful interaction are mildly augmented online, while the potential to access the information of others is significantly increased.

Therefore, online social networks have a significant impact on privacy, as the information flows amongst the nodes may make our offline personal information accessible to more people whom we are not close to and whom we may not want to share such personal information with.

4.3 Online information disclosure and privacy

An area of concern for parents and educators is the level of personal information

that youths disclose online, which is related to youths' perceptions of online privacy. While youths share, and SNS encourages sharing information on many levels and many forms, perhaps more thought should be given to how such personal information might be used. This concern has received considerable coverage in the media, with cases such as US police authorities charging three men for sexually assaulting teenagers they found through MySpace (Stafford, 2006), which raises further concerns about the vulnerability of youths online.

In response to this general concern, some studies have examined information disclosure in SNS. In the context of this study, information disclosure is the amount (quantity) and degree of sensitive information released by individual users about themselves (De Souza, 2009). The disclosure of personal information considers how online social connections are much more lax in this aspect than offline (Gross & Acquisti, 2005). Personal and sensitive information is often publicly provided to the nodes in networks, to people who are barely friends.

Huffaker and Calvert 's 2005 study also found that teenage 'bloggers' revealed a considerable amount of personal information. This included first name (70%), age (67%) and contact information (61%), in the form of email address, instant messenger user name or a link to a personal web page. Less disclosed information included birth date (39%) and full name (20%). Relationship information was also provided in 49% of blogs.

Several reasons have been offered as to why users reveal information about themselves online. One reason is signaling (providing selective information to present oneself in a positive light), and some SNS users view the benefit of this outweighing the costs of possible privacy invasions (Donath & boyd, 2004). Some Facebook youth users may share certain personal information to create a particular online image.

Another reason for personal information disclosure raised in the literature is peer pressure or herding behaviour. Govani and Pashley (2006) suggested youths' peers and friends online share certain types of information that the other youths may feel obligated to do so as well.

However, not all literature points towards youths revealing too much of their personal information online, thus exposing themselves to danger. An extensive content analysis of MySpace profile pages revealed that the problem of personal information disclosure on SNS may not be as widespread as many assume and that the majority of adolescents are using SNS responsibly (Hinduja & Patchin, 2008). Also, many of the youths' close online relationships are with members of family or friends (Wolak, Mitchell & Finkelhor, 2002). In fact, most youths are more concerned about customizing and making their SNS profiles attractive than revealing of their personal information. (Livingstone, 2008).

So far, while mixed, the results for online personal information disclosure for SNS indicate that most youths are using SNS responsibly and are aware of the its privacy settings.

4.4 SNS and privacy

Stranger danger is very probable on some SNS, given that even non-users of SNS are able to search and view profiles of some SNS users who have set privacy viewing settings to public instead of 'friends-only'. As younger and younger children take up the use of these sites, there have been some attempts to improve privacy. For example in Facebook, youths with ages set at 14–15 years have a default setting of private (only online friends can view this).

Other safeguards employed by SNS such as MySpace include how users over 18 are unable to add users whose ages are set at 14–15 years as friends unless they know the user's full name or email address. However, youths do lie about their age to bypass restrictions and there is no verification procedure by MySpace to ensure the true ages of its users.

The implications on privacy associated with online social networking depend on how the information revealed online allows for one to be identified, the information's possible recipients, and possible uses of the information. Even SNS that do not expose identities may provide enough information to identify the profile's owner. Information revelation can thus work in two ways: by allowing

others to identify a pseudonymous profile through previous knowledge of one's characteristics or traits; or by allowing inference of previously unknown characteristics or traits (Gross & Acquisiti, 2005).

Vie (2007) posits that youths may feel a false sense of security about their online personae, leading them to portray themselves online in ways that inaccurately represent their offline selves, which may incur serious repercussions. Vie's proposal of familiarizing parents and educators with SNS to help youths understand the implications of their SNS use is also echoed by De souza and Dick (2008).

Another perceived perpetrator of privacy risks is SNS such as Facebook exposing user data to third-party developers (Strater & Richter, 2007; Felt & Evans, 2008). More often than not, users of SNS do not read the privacy policy when they sign up. A balance needs to be struck between protecting the privacy of the SNS users and not stifling the creativity and freedom of the third party and SNS developers (Sithigh, 2008).

Therefore, while it is pertinent to identify the privacy, surveillance and legal issues that are SNS related, we also need to understand that the cause of concern of the violation of privacy is the feeling of being exposed and invaded (boyd, 2008). This feeling may be a price that we have to pay to enjoy social convergence.

4.4.1 SNS privacy policies and settings

When registering with Facebook or MySpace, users must agree to the terms of service and privacy policies when setting up their online profile. These terms include how and when their profile information is collected, how their usage is tracked and how SNS use the profile information collected (Metzger, 2004). These privacy policies also inform how other users can view our profiles and when and how the SNS can disclose information to a third party. The privacy policies are mandatory and must be accepted while registering for the SNS. Different SNS also have different policies about their users' default profile privacy settings. Facebook's default settings allow for profiles to only be viewed by registered Facebook users.

Facebook's privacy settings also allow for users to change their default settings to limit the viewing of their profiles, or certain aspects of their profiles, resulting in different users having access to limited parts of their profiles. When users use this function, they ensure that only users whom they accept as friends will be allowed to view their profiles and how different users have different access to different aspects of their personal information. MySpace's default settings allow all other registered users to view the profiles of others. However, like Facebook, users are allowed to change their settings so that only their friends can see their profiles. This has implications for how youths set their Facebook privacy settings as well as the types of personal information youths disclose online.

4.5 Parents and online privacy

Unlike their youths, parents are mostly not digital natives. Thus, they may be unfamiliar with the workings of SNS and are unaware of their children's activities online. Parents may also be unaware of the actual risks in SNS even if they are aware of the activities their youths are engaged in online. Most of the literature supports greater involvement on the part of parents in monitoring their youths' activities online (Livingstone & Bovill, 2001).

Parents may not be paying sufficient attention to what their youths are doing online, for a number of reasons. Firstly, parents may lack the technological knowledge and technical skills to provide proper supervision (Wallace, 1999; Livingstone & Bovill, 2001; Davidson & Martellozzo, 2005). Secondly, they may choose to respect their youths' privacy online, failing to recognise that SNS are actually public domains. Thirdly, they are simply unaware of the related dangers (Willard, 2007). Therefore, it is not necessarily a case of apathy from the parents, but rather, they may not know where to begin to guide their youths on online privacy. Parents may thus end up developing a negative impression of the personal information sharing their youths conduct online, thinking that their children are ignorant of the risks, do not care about privacy or display poor judgment (Abril, 2008).

Understanding how SNS are utilized by youths is an area that behooves further research. The use of SNS occupies a significant amount of youths' time, is

ubiquitous, rapidly expanding and are used for various purposes. This has implications for youths' levels of personal information disclosure online and their online privacy perceptions as they are already very much immersed in the online environment. This study attempts to provide some information on youths' SNS behavior that might be of heuristic value to educators and parents.

4.6 Youths and online privacy

Youths today are digital natives who are adept with, but are at the same time vulnerable to the risks posed by new technologies. Youths who are online continue to reveal personal information, despite privacy groups' advice on not revealing personal details to strangers or new online friends (McCandlish, 2002; Govani & Pashley, 2006).

It is postulated that youths experience a privacy paradox, where they freely provide their personal information online but are surprised when their parents read the information they post online (Barnes, 2006). Studies have shown that youths' disclosure online is significantly predicated on the need to be popular (Christofides, Muise & Desmarais, 2009). Moscardelli and Divine's 2007 study indicated that heightening youths' concern for their privacy lead to a greater possibility that they will utilize more privacy-protecting behaviors. This means that the role of parents and educators in heightening youths' privacy awareness will translate into more desirable privacy-protecting behaviors and that guiding youths on protecting their privacy does reap results.

Strategies employed by youths to protect their privacy online include: exclusion of personal information, using private email messages and altering the default privacy settings (Young & Quan-Haase, 2009), or adjusting their profile visibility and using nicknames (Tufekci, 2008).

In the Singapore context, a study on adolescence disclosure revealed that Singaporean parents tend to underestimate their teenagers' engagement in risky Internet behavior and overestimate the amount of parental monitoring regarding Internet safety at home. It recommended that parental monitoring in Singapore needs to be reconceptualized and that parents need to improve communicating to their teenagers regarding Internet use (Liau, Khoo and Ang, 2008). Therefore, this study supports the need to understand Singapore parents together with their youths to ascertain if there exists a difference in privacy perceptions between the two groups.

4.7 Research Questions

Based on the literature review of youths, privacy as well as SNS, this paper shall examine the concerns linked with the rise SNS usage; how youths are representing themselves online and determine how savvy youths are when it comes to protecting themselves against online predators from their levels of personal information disclosure in Facebook.

Parents require knowledge on how their youths perceive online safety and the amount of personal information they disclose online before they can guide their youths against online predatory practices. Thus, this paper seeks to address the following research questions:

RQ1: Do Singaporean youths adopt privacy safeguards in Facebook?

RQ2: What is the extent and nature of information disclosure by Singapore youths in SNS?

RQ3: To what extent are Singaporean parents aware of the nature of personal information disclosure by their teenage children in Facebook?

RQ4: How safe do Singaporean parents perceive their teenage children to be in Facebook?

RQ5: Are there disparities between youths' and parents' perceptions of the risk of personal information disclosure vis a vis Facebook?

Chapter 5: Methodology

5.1 Selecting research methods

Communications research utilizes many applied social research methods. While there are many ways of classifying applied social research, Rossi and Whyte (1983) have identified three broad categories: descriptive, analytical and evaluation.

Descriptive applied social research is the most basic of the three types of research. It makes extensive use of sample surveys and performs an important 'intelligence and monitoring' function (Bulmer, 1982). Social surveys provide policymakers with a wealth of descriptive data, which cover demographic characteristics, economic factors and social trends.

Analytical studies go beyond simple description in their attempt to model empirically social phenomena under investigation. Applied research is defined in terms of intention and not outcome. Analytical research is usually problem-oriented and is used to "illuminate a problem in such a way as to permit action to be taken to change the situation revealed" (Bulmer, 1982).

The scope of research for this study encompasses of youths' perceptions of privacy and their level of self-disclosure online; as well as their parents' level of knowledge of privacy and the online habits of their children. The data collected for analysis cover both descriptive as well as analytical social research. Results of this study will provide information for policy makers as well as educators and parents on the approach to adopt when guiding youths in SNS.

5.1.1 Research framework: Mixed methods research

Mixed methods research was first used in the social sciences to describe a form of multiple operationalism or convergent validation (Campbell, 1956; Campbell & Friske, 1959). At that time, mixed methods research was used largely for

multiple data-collection technologies designed to measure a single concept or construct (data triangulation).

For many researchers, mixed methods research is restricted to the use of multiple data-gathering techniques to investigate the same phenomena. This is interpreted as a means of mutual confirmation of measures and validation of findings (Jick, 1983; Knafl & Breitmayer, 1989; Leedy, 2001; Mitchell, 1986; Sohier, 1988; Webb, et al., 1981). Fielding and Fielding (1986, p. 31) suggested that the important feature of mixed methods research is not the simple combination of different kinds of data but the attempt to relate them so as to counteract the threats to validity identified in each.

Hammersley (1996) suggested a tripartite classification of the ways in which researchers employ different types of the data in the process of interpreting their data:

(a) Triangulation: where one type of data (usually quantitative) is used to corroborate another type of data (qualitative)

(b) Facilitation: where collecting one type of data facilitates the collection of another type of data

(c) Complementarity: when two different sets of data are employed to address different but complementary aspects of a research

For this study, the content analysis and online survey aspects of the research are treated as complementary; the survey is used to examine associations and generalizability to the parent and youth population whilst content analysis is used to understand social processes at a micro-level. Complementarity also addresses how each dataset is interpreted in relation to the conceptualization of the research question and method by which the results are obtained.

Mixed methods research can also be used to address the strengths and weaknesses of different forms of quantitative research within the same study (Hewson, 2006, 2007). When mixed methods research is brought into the online context, it allows for the observation of behavior in online environments which cannot be replicated offline. Thus, mixed methods for Internet research allow for a research strategy that combines different approaches in a single study (Hewson, 2007).

The Internet supports mixed methods research as it provides a conducive environment for document analysis, allowing for ready access to large volumes of data online at anytime, thus easing and expediting the data collection for content analysis. Other advantages include the ease of lengthy and costly data collection procedures by digitalizing the data collection process. Using certain instruments such as online surveys may increase the response rate as respondents are afforded flexibility in terms of when and where to fill up the surveys. However, drawbacks of the Internet also include how I need to confirm

the veracity of the information collected during content analysis and the surveys being timed out when participants forget to complete the surveys while multi-tasking when they are online.

Internet-mediated mixed methods research can be applied in one of two ways: sequential or concurrent (Creswell, 2003). The sequential approach is utilized for this study, where content analysis is first conducted, after which its results provide the basis for constructing the questions for the subsequent survey.

5.1.3 Content analysis

The content analysis conducted for this study is quantitative and serves as a precursor to the online survey. The reason why content analysis preferred over other research methods for this study is because it produces richer and more informative data, which is imbued with the participants' own understandings, meanings and perspectives (Hewson, 2007).

An advantage of online content analysis is how I have the option of adopting a participant or observer role and this option complements the action-research framework for this study when I not want to be intrusive during data collection.

5.1.4 Surveys

For this study, the surveys of the youths and their parents contribute to the quantitative component; a self-completion online survey allows researchers to

obtain a large-scale representative sample that generates data to be analyzed statistically.

The main advantage of self-completion surveys is that a large population can be surveyed relatively cheaply. Costs are lower as interviewers are not used, and pre-coding and computerization speeds up analysis. Online surveys also allow for flexibility to the respondents who complete the survey at a time convenient to them. For this study, which examines attitudes and behaviors online, an online survey is more suitable as compared to telephone and postal surveys as the youths are already immersed in an online environment.

Disadvantages of using the survey method include low response rate where some surveys do not even achieve more than a 20 per cent rate of return. The response rate depends on a variety of factors such as the subject matter of the survey, the target population of the survey, the respondents' perception of the value of the study and the ease of completion of the survey. The low response rate does not factor in the issue of incomplete surveys, which aggravates the low response rate for surveys. For online surveys, there is the issue of multi-tasking, where youths and parents begin answering the survey and move on to doing other tasks, leaving the survey to run in the background and forgetting to get back to it, heightening the risk of the low response rate.

Therefore, the disadvantages have to be taken into consideration when drawing up the survey to minimize the effect of low response rate.

5.1.5 Benefits of mixed methods research

Quantitative research involves using a numerical approach to the collection and analysis of data. This usually requires empirical studies using social survey techniques to collect data from representative samples of the population with the aim of producing factual data from which generalizations and characteristics of the society can be created.

Also, mixed methods research can increase the validity of the results. Validity in a study exists if the instruments used, in this case, the surveys and the content analysis of Facebook profiles, measure what they set out to measure. The results from each method complement the weaknesses of the other method and serves to either concur and strengthen the validity of some results obtained, while making sure that further investigation is warranted should some of the results of one method contradict the results of the other.

The combination of different types of quantitative research methods such as surveys and content analysis for this study will thus allow for an assessment of youths' privacy perceptions and self-disclosure practices in SNS. The results of the surveys will be complemented by results from the content analysis of the youths' Facebook profiles at the micro-level.

Therefore, for the purpose of this study, content analysis of Singaporean youths' Facebook profiles and surveys for both parents as well as youths shall be employed for the mixed methods research and conducted using the action research framework of participatory research.

5.2 Research Design

The research undertaken for this study is of a cross-sectional nature, where data collection is conducted on more than one case at a single point in time (David & Sutton, 2004). In cross-sectional data collection, the exploration of relationships and associations between variables are carefully thought through and are dependent on the literature review in the previous chapters of this thesis.

It is important at the research design phase to reiterate that the two datasets, obtained from the surveys and content analysis, are distinct and separate parts of the research and that each is valid in it own right.

In the case of this study, the second survey phase of the study depended upon the first content analysis phase and that some of the information that were obtained from the content analysis provided the contextual information about the self-disclosure and online risk-taking habits (if any) by the youths.

For mixed methods research, the combining of different types of quantitative research methods needs to be justified in terms of how this combination is best for answering certain research questions.

The research aims of the two phases of data collection were different. They addressed different research questions and were designed to generate data analyses that complemented each other. The content analysis phase, for example, would be unable to address questions about youths' and parents' attitudes and perceptions. The surveys were therefore designed and carried out with this additional purpose in mind. The surveys were also able to provide insights into questions that were raised in the course of data analysis, thus helping to explain why youth post some types of information and not others.

Revisiting the research questions on page 54 and 55, RQ1 and RQ2 can be adequately addressed using content analysis, which is inductive and thus allows for exploration and a deeper insight into the individual Facebook profiles. Further questions to enhance the validity of the results obtained from the content analysis of the youth's Facebook profiles can be used as basis for the formulation of the online surveys. RQ3, RQ4 and RQ5 can be addressed using the online surveys for the youths and parents as the questions require deductive answers, which allow for greater reliability and generalizability due to its tighter focus (David & Sutton, 2004).

5.2.1 Content analysis

One of the debates when content analysis is involved in the research design is deciding if should be considered qualitative or quantitative. Berelson (1952) and Silverman (1993) are of the opinion that content analysis is a quantitative component of research as it is "objective and systematic". Other proponents of content analysis prefer to see content analysis as a mixture of both quantitative and qualitative (Smith, 1975). For this study, content analysis is primarily quantitative and addresses the duration and frequency of the forms and texts.

For this study, where content analysis is conducted online, I have the option of adopting an observer's role where I do not want to be intrusive during data collection. This helps to reduce bias, as I am able to observe the participants in their natural online environment and unaffected behavior in Facebook.

5.2.1.1 Coding frame

The coding frame for the content analysis of Facebook profiles of Singaporean youths is based on RQ1 and RQ2, which seek to find out how many of Singaporean youths' profiles are public or private and the types of information that are revealed online. The types of information range from their names and profile photos to email addresses, blog addresses or home addresses, as well as further details such as the types of profile photos – individuals in school uniforms or group photos with friends or family. From the description of the coding frame, both manifest and latent content analysis are employed, where the

manifest content is physically present and countable, vis a vis latent content analysis, where analysis is extended to understanding the underlying meaning of the data (Berelson, 1952).

The conceptualization of the coding frame is based partly on current SNS content analysis studies such as the one on MySpace conducted by Patchin and Hinduja (2010). Beside existing studies, the categories of the coding frame are derived from my immersion in the Facebook environment, identifying themes and dimensions that relate to the purpose of the research and the research questions.

For the Facebook profiles, specific words may not make sense independently, therefore I was also looking out for concepts of personal information and self-disclosure.

Such a form of content analysis differs slightly from the traditional concept of content analysis, from the way the coding frame is derived, in terms of the units or analysis, as well as how content analysis is conducted – instead of going through paragraphs, content analysis in this study is very precise as information is either present or not in Facebook profiles. This results in lesser ambiguity in the results obtained for the content analysis. However, bearing in mind the weaknesses of content analysis, it is taken to be an analysis tool to be complemented with online surveys, rather than an entire research strategy on its own (Berg, 2004).

To improve reliability in this study, the coding frame for content analysis was kept simple and the types of information and concepts to look out for were in discrete categories. I did the coding process, which reduced bias or lack of reliability due to the inter-coder process. However, this entailed the possibility of introducing a myopic perspective to the study; to mitigate its effects, I set the units of analysis to be as neutral and value-free as possible. Discrete units and concepts such as Private/Public were also used to avoid ambiguity.

The final coding frame consisted of eight categories and specified codes for categories of information such as identifying the youths' profile, personal, identifying and contact information, number of friends and level of privacy. The coding frame also accounted for the different types of information disclosure such as real name, address, number of photos, as well as wall posts' content and general frequency of status updates. I also noted the path leading each youth's profile – via friends or general search for Secondary Schools.

5.2.1.2 Sampling

Sampling on Facebook was conducted systematically based on the sample frame of Facebook's list of users. This was to ensure representativeness. Based on other studies focusing on relationships in SNS networks, Facebook users appear to be clustered by school with respect to their temporal messaging patterns

(Golder, Wilkinson & Huberman, 2007), therefore I utilized the school networks present in Facebook for my sampling frame.

The period of data collection for the content analysis of Facebook profiles was over a week in November 2009. The coding frame had already been created, though it was subjected to minor modifications prior to the study, when it was pre-tested for 50 Facebook profiles. This was to prevent major modifications in the course of the data collection and ensure consistency in the results.

In the course of a week in November 2009, data was collected from 500 profiles. Initially there were problems in terms of accessing the demographic group of secondary school students. This is due in part to Facebook's search engine. When the search term "secondary school" was entered, the filter "Singapore" had to be entered as well, as seen from the screen capture below:

Fig 5.1: Facebook's search engine

Also, from the results above, only one of the results was a student still in a secondary school even though two of them were listed as under the Seng Kang Secondary School network. Therefore it would be inaccurate to assume that everyone under a Secondary School network in Facebook is currently a Secondary School student, which presented a challenge during data collection.

Therefore, it was imperative to go through the information in each youth's Facebook profile to ascertain the school affiliation and whether the youth was indeed a current secondary school student. Sometimes it might not be clear from going through the youth's profile information and I had to seek further verification by going through the youth's friend list to see if most of the youth's friends were from secondary school networks or in secondary school uniforms which would aid in confirming whether the youth was currently enrolled in a secondary school, as seen in Fig 5.2.

Fig 5.2: Friends list of a student

In the process of collecting Facebook profiles of secondary school students, I gleaned a more comprehensive understanding of Facebook's security settings for minors – the minimum age for a Facebook account is 13 (Facebook.com, 2010). The security settings in place for minors who have Facebook accounts include disabling private message functions, posting comments on their walls or viewing their personal information, thus preventing incidences of online harassment by strangers. Also, the search for secondary schools revealed that minors are not usually listed in the first ten results of the result list. One had to go through a couple of pages of results before encountering a secondary student's profile. Last but not least, the results for profiles become repetitive after the first 100 profiles. Such settings are probably part of the safeguards that Facebook has in place to deter sexual predators from accessing minors' profiles.

Such safeguards also had implications for sampling when it came to data collection for content analysis. Systematic probability sampling could not be carried out due to the repetition of results. I tried to circumvent the problem by going to the Facebook pages of Secondary Schools. However, it was discovered, as shown in Fig 5.3, that most of the Facebook users who joined the Facebook groups and pages of secondary schools were not its current students, but rather, its alumni. However, this was not a fruitless exercise as I managed to utilize this channel later for the dissemination of the online surveys.

Fig 5.3: A Secondary school's Facebook page

In spite of the challenges faced, the data collection for the content analysis of Singaporean secondary students' Facebook profiles was handled in a systematic manner. I began with a generic "secondary school" search with "Singapore" as a filter from Facebook's search engine after logging onto Facebook. When a secondary school student's profile was confirmed, that student's friend list will be used as a new sampling frame from which to obtain another secondary school student's profile. This sampling strategy improves validity, as it is more likely to obtain an actual secondary school student's profile from the friend list of a secondary school student than the generic Facebook search result list.

However, there were certain criteria for my snowball sampling. Firstly, the next secondary school student had to be from a different school as the secondary school student before him/her. Therefore, to ensure representativeness in the content analysis, the profile of the fifth person from the first secondary school student's Facebook friend list who was not from the same school was shortlisted – this was repeated for seven profiles before getting another profile from Facebook's search list results. This was to limit any potential bias and prevent the rest of the profiles from being linked to one profile.

The data collection had to be conducted over seven days, as my Internet cache had to be refreshed daily to prevent getting the same results on Facebook. The sampling protocol for my content analysis allowed for an examination of a mix of youths from various secondary schools, instead of getting most of the youths from the same school, which allowed for the generalizability of the results.

The limitations of the data collection via content analysis were mainly technical limitations when accessing the profiles of minors. Also, ascertaining whether the Facebook profile belonged to a current secondary student was not straightforward due to the limited information in private profiles. However, these limitations were mitigated through a systematic way of accessing and ascertaining the relevance of the profiles for the purpose of the research. A possible bias that might arise from the sampling was how Singaporean secondary school students who were not part of any secondary school network

on Facebook would not be part of the sample frame. It was a trade-off to ensure the validity of the data collection and results. Not all the profiles accessed were public, though all the profiles were Facebook profiles that could be viewed by non-friends like myself. Therefore private profiles were included in the data collection as well.

5.2.2 Surveys - Method

Another quantitative aspect of the research was in the form of online surveys. An online survey afforded the respondents flexibility in terms where and when they to fill up the survey. Most importantly, the online survey was suitable for answering RQ3, RQ4 and RQ5, which deal with attitudinal and behavioral questions. The survey also complemented the results of the content analysis for RQ1 and RQ2.

The online survey method was also selected as surveys and research administered online have been associated with reductions in socially desirable responding (Joinson, 1999; Frick et al., 2001), higher levels of self-disclosure (Weisband & Keisler, 1996) and an increased willingness to answer sensitive questions (Tourangeau, 2004).

The most important part of a survey research is the development of the questions. The success of the survey hinges upon the questions that are asked, the ways in which they are phrased and the order in which they are placed. On

top of that, to incorporate the values of action research, the survey questions were also made more accessible to the layperson, especially questions for the parents, who might not always be proficient in the online environment. In fact, a study indicated that people find a computer format survey both more enjoyable and faster than a paper survey (Edwards, et al., 1997). This may be due to the higher level of interactivity in a computer-mediated environment. However limitations of the online surveys include how respondents do not complete the surveys in time due to multi-tasking while completing the surveys.

5.2.2.1 Surveys - procedure

Two sets of online surveys were created: one for the Singaporean youths and another for Singaporean parents with children in secondary schools. A pre requisite for the survey for the secondary school students was that they needed to have a Facebook account, as the purpose of the survey is to determine their online privacy perceptions and types of personal information disclosed in Facebook. The Facebook account pre-requisite was not extended to the parents as only their online privacy perceptions were to be gleaned.

Many types of questions were utilized in both surveys. They ranged from open ended questions to gain more insight into the respondents, as well as fixed alternative or closed questions, multiple choice questions to gather demographic information or to find out the respondents' perspectives on a range of issues (Ray, 2006). The ordinal scale questions were used to ask respondents to rank a

range items such as a list of personal information items in increasing level of privacy. Another type of question utilized in both surveys was the interval scale question. Most of the interval scale questions were based on the Likert scale to express level of agreement based on a series of statements related to online privacy. Finally, the last type of question that was used in both surveys was the ratio scale question, which asked respondents to provide measurable responses; for example, the number of hours the individual spent online in a week.

The types of information sought from the respondents also affected the types of questions that were formulated. The types of information sought included the following: Attributes (personal or socio-economic characteristics such as gender, age, occupation, which schools respondents are from), Behavior (what the individual has done, is doing and may do in the future), Attitude (evaluation and how respondents feel about an issue).

An affordance of online surveys that came in useful when implementing both surveys for parents and secondary school students was the ability to route questions seamlessly. Once I understood the workings of setting up the survey online, it was possible to route questions from one to the next in non-sequential order, based on the respondent's response. This affordance affected the order of the questions, as I was able to begin an open-ended line of questioning. This process is called funneling (David & Sutton, 2004; Ray, 2006). Routing or funneling questions allowed me to direct the respondents to particular sections

of the questions. This process is helpful when there are some groups of questions that are not applicable to some respondents, for example, parents who are not on Facebook.

An issue that was addressed in the formulation of the survey was the issue of context effects that refer to the effects of prior questions on subsequent questions (Schman & Presser, 1981; Schuman, 1992; Sudman et al., 1996, Tourangeau et al., 2000). Context effects is salient for this study as the subject matter involves perceptions of privacy, which are based largely on one's experiences and values that have been affected by one's surroundings. On top of that, social networks online are participatory and experiential and this could add another layer of context effects. The order of the questions could be re-arranged when I was constructing the online survey, thus mitigating context effects.

Researchers have long recognized the influence of social desirability on responses to sensitive or embarrassing questions is higher in interviewer-administered surveys than self-administered surveys (Tourangeau & Smith, 1996). Based on this, we can expect Internet surveys to produce fewer socially desirable responses. However, this assumes that the respondents trust in the confidentiality provided by Internet surveys, which may not always be the case. What I did to mitigate the effects of context effects was to provide the respondents more control over the survey process through allowing them to move to previous questions to not restrict their navigation.

To provide respondents with more confidence, the language used in the survey was also not laden with technical jargon and kept simple and direct, avoiding ambiguity. For words like privacy, a simple definition was used to explain the term. Leading questions as well as double-barreled questions were avoided to avoid causing confusion. Such an approach also upholds the fundamentals of action research, to be more inclusive and accessible to the layperson by making the survey questions less laden with technical jargon.

Finally, the design of the survey also took into consideration the order of the questions. Context effects are also present in the question order. Question order effects become increasingly likely to occur the closer the questions are to each other, in terms of topic and the location in the survey (Schuman & Presser, 1981; Strack, 1992; Tourangeau, 1992; Touragangeau et al., 2000). Question order sometimes brings to mind considerations that are then more accessible for use in interpreting and responding to a subsequent question – a priming function (Schwarz & Clore, 1983; Touragneau at al., 1989; Schwarz & Bless, 1992). However, the respondent must perceive the two questions as being related topically before any consideration will be paid to formulating similar responses.

Therefore I have taken note to not list questions according to similar themes and concepts, but rather, by the type of information. Respondents will answer questions about attributes, which are more factual, before moving on to the

behavioral, and attitudinal questions instead of answering questions by themes. Questions pertaining to the same theme will therefore be spread across the survey, to reduce the possibility of bias in the results collated.

Besides context effects in question order, the fear of taking extreme positions on highly polarized issues may lead to contrast effects as the respondents attempt to be neutral and non-partisan by selecting some items and rejecting others (Tourangeau, 1992). Using page-by-page construction will reduce the likelihood of context effects by making the relationships between questions less obvious as there is the tendency for respondents to prefer middle categories (Tourangeau et al;. 2004). Therefore, the Internet surveys were constructed in a page-by-page view, with one question per page, with the element of routing incorporated in the surveys as well to spread out the risk of middle categories bias.

Another important underlying aspect of the formulation of the survey is its theoretical grounding, where I have to be as non-technical as possible while incorporating an understanding of the theoretical underpinnings of SNS and online privacy in the questions asked. This shall be addressed in the next section.

5.2.2.2 Dimensions

Dimensions are derived from theoretical underpinnings while formulating of the online surveys. Although mutual collaboration action research is inclined towards understanding events via mutual understanding of the transactions

between one's mental work and external context; a sound theoretical framework is essential to ensure the systematic creation of survey categories and questions.

Altman and Taylor (1973) suggested that disclosure could be categorized into either peripheral, intermediate or core layers. The peripheral layer is concerned with biographic data (e.g age), the intermediate layer with attitudes, values and opinions and the core layer with personal values such as needs, fears and values. Self-report measures of disclosure have been achieved previously with a reasonable amount of success. Parks and Floyd (1996) asked their participants to report the level of their Internet relationships using self-report. However, a lack of context seems to be the main challenge when using self-report measures, I tried to circumvent this by posing scenarios to youths. This is demonstrated in the survey when youths were posed a scenario question that tested their understanding of how the photo-tagging function in Facebook works.

Disclosure is something that is reflective of an ongoing conversation and the wider environment – which includes interpersonal and not just computer-mediated interactions (Joinson & Paine, 2004). Therefore how one accesses the environment is important as well – for SNS like Facebook, users join to link up with other users, which may explain the why the social element supersedes the need to protect one's personal information in Facebook.

The privacy and self-disclosure concepts work on the premise that very few individuals actually take any action to protect their personal information, even when doing so involves little or no cost (Berendt et al., 2005; Jenson et al., 2005). Therefore, the issues of privacy and self-disclosure were investigated in the survey questions where youths were asked about their awareness of various privacy settings in Facebook vis a vis the privacy settings they utilized.

The privacy framework for this study was based on Westin's (1967) four main functions of privacy: solitude, intimacy, anonymity and reserve (limited and protected communication), which in turn provide the link between secrecy (dependent on level of disclosure) and privacy. Privacy is particularly important for understanding self-disclosure, as the relationship between the two concepts is paradoxical. Privacy is a prerequisite for disclosure, yet the process of disclosure undermines privacy. Out of the four functions of privacy, the surveys conducted focused on 'limited and protected communication', which refers to both the sharing of personal information with trusted others and the setting of interpersonal boundaries. Altman (1975) also supports this view of privacy from a social and environmental psychology perspective.

Both Altman's (1975) and Westin's (1967) approach to the idea of privacy with a limited-access concept are further supported by Burgoon et al. (1989) who derived an interactional and social-communication dimension which examines an individual's ability and effort to control social contacts. This interactional

element of privacy is then extended to the informational dimension of privacy (Westin, 1967; Burgoon et al., 1989) that relates an individual's right to determine how, when and to what extent information about the self will be released to another person. However, the difference between informational privacy and self-disclosure lies in the control – the self determines self-disclosure whilst information privacy is partly governed by law and for the case of Facebook, its set of privacy settings and privacy policies.

Therefore, aside from the questions on self-disclosure online and Facebook, questions pertaining to the understanding of informational and interactional privacy asked respondents whether they read Facebook's privacy policy and their settings for popular Facebook utilities such as photo albums.

Finally, a set of questions was utilized in both sets of surveys to categorize youths and parents into three groups according to the Westin privacy segmentation. The questions are as follows:

i) For the purpose of this study, privacy is defined as "personal information which is confined to or intended only for, a certain person/group of people, and not anyone else". State your level of agreement with this statement.

ii) In general, you are concerned about your privacy when using the Internet.

iii) Facebook is safe for the posting of personal information (mobile number, addresses).

iv) It is important to maintain personal information privacy (e.g. mobile number, contact information) in Facebook.

v) I can count on Facebook to protect my privacy.

Westin's three privacy categories include: Privacy Fundamentalists who feel strongly about privacy and highly value it; Privacy Pragmatists who have strong values about privacy and weigh value to them and society when providing their personal information; and Privacy Unconcerned who have no real concerns about privacy. Understanding the youths' and parents' privacy values will enable policymakers to better address the issue of online privacy and self-disclosure to the different groups of the privacy segmentation and whether there is a need to further emphasize and reinforce the importance of privacy online.

5.2.2.3 Sampling

Method

The sampling for the surveys was conducted using a multi-pronged approach. Before the actual surveys were released, a pilot-test was conducted on two secondary school students and their parents in December 2009 using convenience sampling from my contacts. Amendments and improvisations were made before creating the online surveys and going live with the online surveys in March 2010.

The target populations for the surveys are Singaporean secondary school students aged 12-17 as well as parents with children in secondary schools. The surveys measured self-disclosure for the youths as well as privacy perceptions for both youths and parents. The sampling strategy initially employed for the surveys was non-probability sampling as it was optimal for testing population characteristics and to describe accurately the characteristics of the sample in order to estimate population parameters.

Procedure

I had initially approached schools to seek their cooperation but the schools were unwilling to commit to the study due to the conflict with the schools' academic calendar. Therefore, alternative sampling strategies were employed involving the use of social networks. I joined the Facebook groups of the various secondary schools and posted the survey links on the walls or discussion boards of the student group pages as shown below in Fig 5.4. It should be noted that such a sampling procedure would be biased as only schools which have a Facebook presence would be included in the study even though students from other schools which are not on Facebook have their own individual Facebook accounts.

Fig 5.4: Example of posts in discussion boards to get students for online survey

After taking into consideration how some of the Facebook groups are not very active, alternative ways of reaching the youths were used. The most effective method was that of network sampling. I used my contacts in secondary schools to reach out to their peers as well as contacts of my friends who are secondary school teachers to pass on the survey links. Email reminders were sent weekly to remind them to pass on the survey links. This proved to be more effective than going through the bureaucracy of the educational institutes.

The advantage of snowballing is that it reveals a network of contacts that can be studied and from the responses so far, it is observed that there tend to be clusters of students from schools who participated in the survey. The main limitation of the snowballing sampling strategy is how it favors and includes those with a connected network of individuals, which makes the results of the students' survey lacking in terms of generalizability.

It was more difficult to reach out to the parents. Most schools expressed that they were unwilling to take on the surveys due to the involvement of parents in the data collection process. There was also a lack of support from the parent support groups, which made it difficult to access this target population. It was also realized during the data collection process that parents do not tend to forward the survey links to other parents, which made snowballing efforts futile.

The aim of the study was to obtain responses from 200 students and 200 parents. By mid-April 2010, 408 responses from students were collected while 150 responses were collected from the parents. Out of the 408 responses from youths, 258 of the online surveys were completed; out of the 150 surveys collected from the parents, 101 were completed. The response rates were more than 50%, which could be due to the snowballing effect, where participants were more willing to complete a survey from a known source.

In terms of representativeness, there were more female (73.6%) than male (26.4%) youths participating in the survey from a representative mix of schools: independent/autonomous (17.3%) and government (82.7%). For parent respondents, there were more female respondents (68%) than male respondents (32%) with the majority (91.2%) of parent respondents in white-collared industries.

5.3 Challenges encountered in the course of data collection

5.3.1 Challenges faced at the conceptualization phase

Challenges faced in the conceptualization of the surveys pertain mainly to linking the concepts and creating dimensions for online self-disclosure and privacy. The challenge lie in how connectivity has become more nebulous as people may be unintentionally revealing personal information via the technology they use. For example, mobile phones with inbuilt location functions

Therefore it was important to set the parameters of self-disclosure as a concept where information disclosure can be controlled. Also, in the case of the Internet, the self-disclosure and privacy paradox may be resolved without incurring a loss in privacy (Ben Zee v, 2003) as level of disclosure for information online can be controlled by the users, for example, Facebook.

5.3.2 Challenges faced at the implementation phase

Challenges faced in the implementation of the both the content analysis and the surveys were technical limitations as well as access to the target populations. For the content analysis, the technical limitations such as Facebook's search engine filters and privacy protection settings for minors presented a challenge when accessing the secondary students' profiles. I overcame the challenge of access by utilizing technical methods such clearing my cache and employing a systematic way of sampling.

The challenges posed by the dissemination of the online surveys to the target population proved to be more challenging to overcome as compared to the challenges faced during content analysis. Perhaps it would have been advisable to use paper survey methods for parents, though there would be a trade-off in terms of the results vis a vis a higher response rate. A mix of online and paper surveys may result in bias arising from context effects.

Therefore, as the response rate for the parents did not meet the target 200 respondents, the results from the parents will be factored in as an exploratory study due to the lack of generalizability. The low response rate for the parents will be factored in the subsequent chapters during the discussions on findings.

Chapter 6: Findings and discussion – Content analysis

6.1 Overview of chapter

The rationale for the research design and response rates of the online surveys for both parents and youths were reported in the previous chapter. Following up on that, this chapter shall address the results of the content analysis.

In this chapter, the findings from content analysis will be presented to address RQ1 and RQ2 (refer to pages 54 and 55). The information collected shall also address the issues of: i) level of information privacy of the Facebook profiles of secondary school students, as well as ii) students' utilization of Facebook's information privacy settings. This chapter shall proceed to conclude with

observations gleaned and how they contribute to the existing body of literature of SNS and related topics.

6.2 Representativeness of student profiles and data storage

One of the aims of conducting content analysis of Singaporean secondary school students' Facebook profiles was to aid in providing the framework for the online survey questions. It also demonstrated the information privacy safeguards utilized by Singaporean youths on Facebook.

The selection of the students' profiles was crafted to be as varied as possible. This was in line with the aim of achieving a purposive sample population to achieve as much as possible, representativeness amongst the student profiles. Among the 500 profiles, there was a mix of single-sex (33.1%) and co-ed (66.9%) schools; schools from the north (33.1%), south (24.3%), east (26.2%) and west (16.4%) zones; independent/ autonomous (15.1%) and government (84.9%) secondary schools; and a mix of female (52.2%) and male (47.8%) students.

As mentioned in the previous chapter, I had prepared a coding sheet for the public profiles of students. After the pre-test, the coding sheet was modified to include user information revealed in private profiles.

All 500 Singaporean students' Facebook profiles were print-screened and kept in a folder in my laptop for storage and reference purposes. Keeping in line with

ethical considerations, the Facebook profiles shall be deleted six months post-completion of the study.

6.3 Addressing the research questions

RQ1: Do Singaporean youths adopt privacy safeguards in Facebook?

	Number of students	Percentage (out of 500)
Type of profile		
Private profile	495	99%
Public profile	5	1%
User information posted in public profiles		
Real name	5	1%
Address	0	0%
Photo album(s)	5	1%
Friend list	5	1%
Gender	5	1%
Likes and interests	5	1%
Location: Country	5	1%
Birthday	5	1%
Wall posts/comments	5	1%
Instant messenger username	5	1%
Twitter username	4	0.8%
Blog link	3	0.6%
Home number	0	0%
Mobile number	0	0%
Contact information for Facebook	5	1%
User information posted for private profiles		
Real name	425	85%
Address	0	0%
Photo album(s)	0	0%

Friend list	100	20%
Gender	380	76%
Likes and interests	70	14%
Location: Country	20	4%
Birthday	20	4%
Wall posts/comments	15	3%
Instant messenger username	5	1%
Twitter username	5	1%
Blog link	15	3%
Home number	0	0%
Mobile number	0	0%
Contact information for Facebook	140	28%

Table 6.1: Types of profiles and personal information revealed

From Table 6.1, most of the students' profiles (99%) are private. Private profiles are accessed via the public profiles of users who are friends with users of private profiles. The information displayed on private profiles is usually more limited than information in public profiles to non-friends like myself. From the results, there are varying levels of privacy within the private profiles. Some youths (15%) use monikers, leaving out personal photos for their profiles' display photos; other youths have varied levels of access to wall posts and comments.

From the 500 Facebook profiles, it can be surmised that most (99%) youths are aware of information privacy and undertake steps to safeguard their personal information in Facebook. One of the most common privacy safeguard practiced is evinced from their profile settings: private (99%) instead of public (1%) to protect their personal information.

Having a private profile implies that while the user's youth's profile can be found in Facebook, it may not reflect all of his/her personal information in Facebook. One has to request to add the user as a friend in order to access the rest of his/her personal information posted on Facebook, or be subject to having access to the same amount of personal information disclosed as the other non-friend Facebook users. Out of 500 profiles, only five youths set their profiles as public (see Fig 6.1) vis a vis the other 495 youths. However, it should be noted that although most of the youths' profiles were private, there is a range of information privacy settings employed amongst the private profiles.

From Table 6.1, we can see that none of the youths with public profiles revealed their residential address, residential numbers and mobile numbers. The number of privacy safeguards taken by youths with private profiles is higher than those with public profiles. On top of residential addresses and numbers, mobile numbers, photo albums were also not available for public viewing in Facebook. The extent and nature of personal information disclosure are discussed in RQ2, but from Table 6.1, Singaporean youths do adopt privacy safeguards in Facebook.

Fig 6.1: An example of a Facebook public profile

RQ2: What is the extent and nature of information disclosure by Singaporean youths on Facebook?

Basic identifiers in youths' Facebook profiles

To aid me in identifying a youth's profile as belonging to a Singaporean secondary school student, I included the use of identifiers in the youths' profiles for my content analysis. Such information was also helpful in picking out the types of personal information revealed by students. Basic identifiers for the youths' profiles were i) youths' profile photos, ii) friends in the youths' profiles as well as iii) profile information such as the school networks.

Identifiers in youths' profiles	Number of youths	Percentage (out of 500)
Youths' profile photos	437	87.4%
Pictures of friends	63	12.6%
Friends list	500	100%
School networks	500	100%

Table 6.2: Identifiers in youths' Facebook profiles

As I had to ascertain that the profile was that of a secondary school student's, a photo of a youth in the profile photo was insufficient. Examples of identifiers in the profile photos include the youth wearing the school uniform or at school

events wearing the school colours. The youth may identify himself/herself with a school network and I checked the youth's Friends list to confirm if the student is currently a member of the school via his/her friends' profiles.

The rationale for the use of multiple identifiers is to address situations when there is a discrepancy in the personal information. A case in question was when a youth claimed to be a member of a particular secondary school's graduating class in 2008 but had recent photos clearly depicting that he was still a member of the secondary school. Such incidences may arise in Singapore, where the concept of a graduating class is still less prevalent than in the USA, where Facebook is created. Therefore the idea of class of 2008 may be construed to be a member of that school in 2008 and not necessarily the graduating class of 2008 (refer to Fig. 6.2).

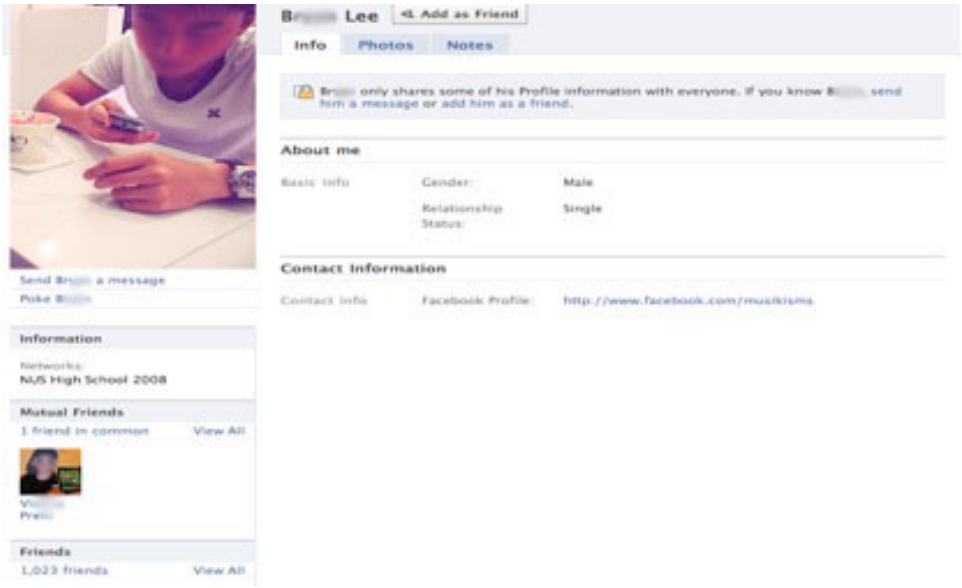

Fig. 6.2: A Facebook profile with conflicting personal information

Therefore from the basic identifiers, it can be surmised that personal information revealed in Facebook by youths may not concur with or reflect the truth. This will affect the nature and extent of the personal information revealed in Facebook; it is not only the types of personal information revealed in the youths' profiles, the veracity of the personal information has to be checked too.

To determine the veracity of the personal information revealed in Facebook, it is advisable to double check with other available Facebook personal information.

Based on Table 6.1 (page 88 and 89), Singaporean youths display a high level of information disclosure in their public profiles. From Fig 6.1 and Table 6.1, we can see that youths with public profiles disclose personal information such as their location (100%), blog address (60%), Instant Messaging (IM) (100%) and Twitter usernames (80%), gender (100%), birthday (100%), networks and educational institutions (100%) and more personal information like photo albums (100%).

It is also observed that there is a discernible decrease in the level of personal information disclosure in their private profiles vis a vis their public profiles; the personal information disclosed is more generic, limited usually to just gender (100%) and Facebook contact information (100%) (Fig. 6.2). However, while 100% of the youths reveal networks and educational institutions, it may be attributed to the way the profiles were selected – via schools' Facebook networks and snowballing from youths who display their school networks in

Facebook. School networks is a less private type of personal information vis a vis home addresses and mobile numbers; therefore it does not affect the overall level of personal information disclosure by youths in Facebook.

In answering RQ1, it was noted that there exists different types and levels of private profiles due to the affordances provided by Facebook that allow youths to customize their privacy settings. Most (76%) youths with private profiles revealed very rudimentary information, usually limited to real name, gender and networks (Fig 6.3).

Fig. 6.3: An example of a Facebook private profile with minimal personal information

However, some youths with private profiles also list family members who are on Facebook, indicate their likes and interests (14%) and allow access to their Friends lists (20%) and wall posts (3%) (Fig. 6.4).

Fig. 6.4: An example of a Facebook private profile revealing more personal information

From Fig. 6.3 and 6.4, it can be observed that some youths like J Zhao, reveal publicly more personal information in their private profiles as compared to other youths who own private profiles.

Although real name is one of the most (86%) prevalent piece of personal information revealed in Facebook, this does not include youths such as STT (Fig. 6.5) who use their real names in their Facebook profile contact information but not as their profile names. Other personal information revealed by youths in their public and private profiles include Gender (77%), Contact information for Facebook (29%), Likes and interests (15%), Location (5%), Birthday (5%), Wall posts (4%), Blog links (3.6%), IM usernames (2%), Twitter usernames (1.8%). None of the private profiles listed the home addresses, home numbers or mobile numbers. From the above, it is evident that youths are aware of the information

privacy safeguards on Facebook and utilize them. They are also judicious about the types of personal information they allow to be publicly viewed.

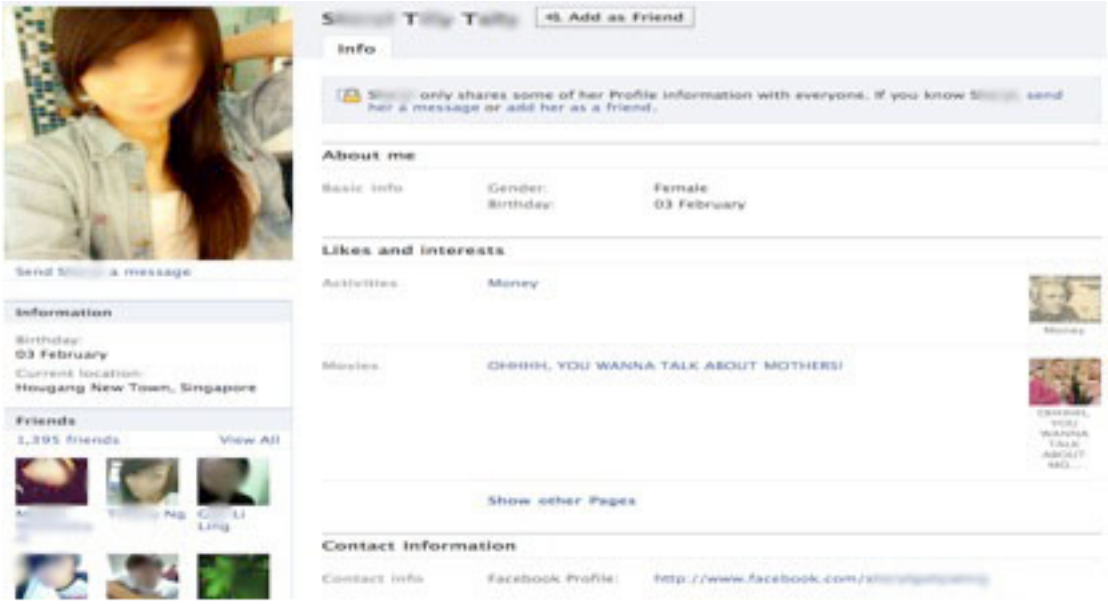

Fig. 6.5: An example of a Facebook private profile under a moniker

Most information such as Gender (77%), Contact information for Facebook (29%), Likes and interests (15%) that youths allow strangers access to are less personal and private and more generic, vis a vis more private personal information like Location (5%), Birthday (5%), Wall posts (4%), Blog links (3.6%), IM usernames (2%).

There seems to be a privacy continuum with respect to the types of personal information revealed. More sensitive and private personal information such as location and birthdays are less likely to be revealed by youths in their Facebook profiles. Information that enables strangers to establish direct online communication with youths such as IM (2%) and Twitter (1.8%) are also less likely to be revealed publicly on Facebook. Contact information such as

residential numbers and addresses that allow strangers to establish offline contact are almost never revealed publicly in Facebook.

From the results above, it can be surmised that even though most Singaporean youths possess private Facebook profiles, the concept of private in Facebook should not be taken at face value as the deprivation of most, if not all, personal information to all Facebook users. Even among youths who possess private profiles, some profiles are more private than others.

Therefore, one has to understand the extent and nature of personal information to make sense of the information in Facebook profiles. Generic personal information such as gender and school networks being revealed at a higher frequency in private profiles vis a vis personal information which can identify youths as individuals - locations, birthdays, photos. The omission of such information protects youths from online harassment and suggests that Singaporean youths are utilizing Facebook to seek out and make new friends.

6.3 Observations from the content analysis of Singaporean youths' Facebook profiles

6.3.1 Number of friends on Facebook

100% of youths with public profiles allow display their Friends; however, this is not the case for most private profiles. Most (80%) of the private profiles do not display their Friends list. For youths who display their Friends list in their profiles, their number of friends ranges from 89 to 1395. It is noted that youths

with over 1000 friends in their Friends list (4.8%) own private profiles that furnish more than the basic generic information.

There was only one exception where a youth's profile (Fig. 6.5) did not provide a real name, nor personal contact information aside from her Facebook contact information and had a Friends list of 1395. It was STT's profile (Fig. 6.5). For STT's profile, although her real name can be deduced from her Facebook contact information, other Facebook users are unable to access her wall, photo albums or email address/blog address unless they add her as a friend and she approves their friend request.

Such aforementioned tactics employed by youths can demonstrate how they are savvy when it comes to protecting their personal information on Facebook. They use monikers as their profile names while leaving clues about their real identities in their profile. Their friends on Facebook are able to identify them from the information they choose to reveal in their profiles: profile photos, location, etc.. For example in the case of STT, she used her real name for her Facebook profile contact information.

6.3.2 Youths' different approaches to Facebook information privacy

Overall, results of the content analysis do not indicate or attribute information privacy traits to specific student groups.

For the top three types of personal information Table 6.1, real name, gender and

contact information, youths who reveal both gender and contact information are also evenly distributed across the schools as well as female and male youths. However, for real names revealed on Facebook, it is noted that students from government schools (84.9%) tend to not use their real names on Facebook compared to students from the other schools. Youths create monikers mixed with their real names, for example, Sinyee "Onew" Lim (Fig. 6.6) and Sharon de Tiara (Fig 6.7) or monikers that include local colloquialisms, such as Gabie Suaku (Fig. 6.8). This may be a result of school culture, as the abovementioned students have schoolmates who follow similar monikers in their Friends list. For example, Sharon De Tiara has "siblings" who are named Dinasha DancingStar (Fig. 6.7).

Fig. 6.6: An example of a youth's Facebook profile under a moniker-real name

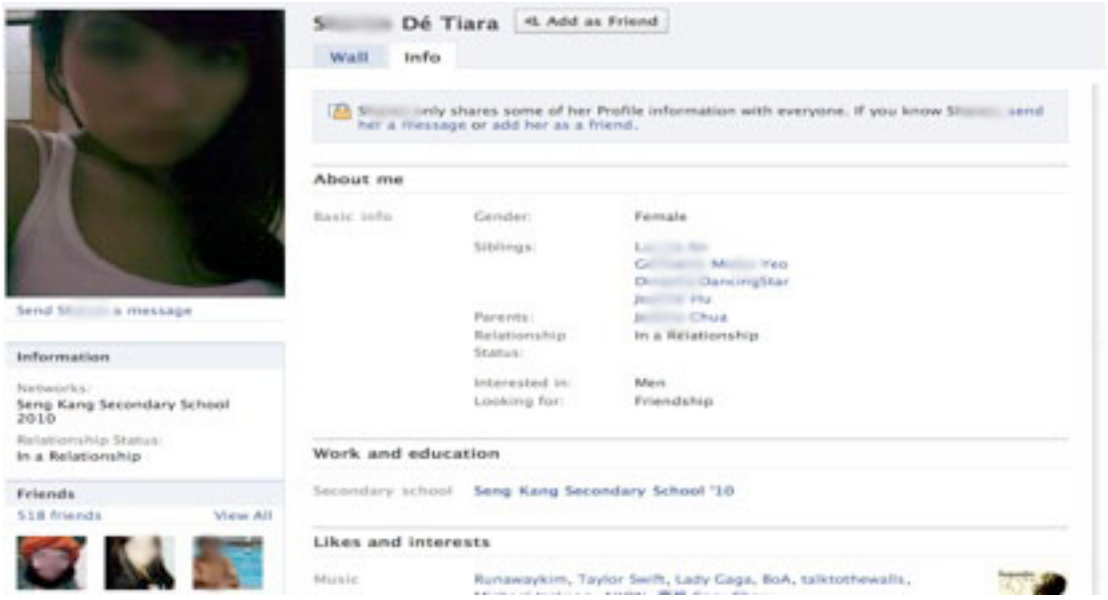

Fig. 6.7: Another example of a youth and her friends who adopt moniker-real names

Fig 6.8: An example of a Facebook profile under a colloquial moniker, "Gabie Suaku"

While there are no major differences in the types of personal information revealed in Facebook among youths; certain nuances exist in the way youths portray themselves on Facebook, which may vary among Singaporean secondary schools. Such nuances may be attributed to different school cultures rather than the overall Singaporean youth culture.

6.4 Contribution to existing literature

6.4.1 SNS and youths

From my content analysis, it is observed that youths use their Facebook profiles to express an aspect of their identity, may it be their school affiliations, their friends or their favorite animae characters.

Also, my analysis concludes that youths have control online as they select their personal information to disclose and consciously utilize Facebook's privacy safeguards. Through their Facebook profiles, youths can construct their profiles for their friends and peers to view and are inclined to present the side of themselves they believe will be well received by their peers (boyd, 2008; Stern, 2008). This is evinced from youths selecting profile photos that emphasize their looks, with classmates and friends to emphasize popularity and offline social networks (Fig. 6.9) and award ceremonies to emphasize achievements (Fig 6.10).

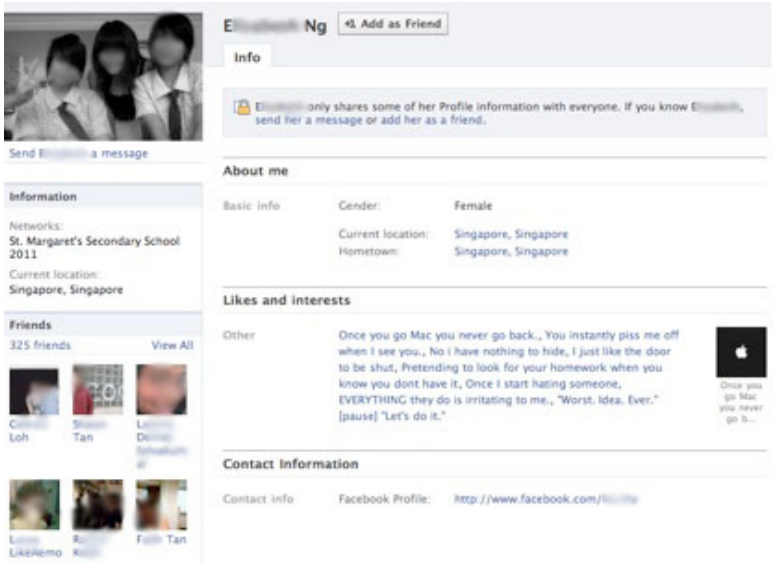

Fig. 6.9: A Singaporean youth's Facebook profile photo displaying her social and school affiliations

Fig 6.10: A Singaporean youth's Facebook profile photo emphasizing on achievements in school

6.4.2 Level of information disclosure in SNS

One of the premises of this study is to investigate the level of personal information disclosure and my findings support current literature on how the problem of personal information disclosure on SNS may not be as widespread as many assume and that the majority of youths are using it responsibly, as postulated by Hinduja and Patchin (2008). My findings also agree with Wolak, Mitchell and Finkelhor (2002), about close online relationships, as I found that youths list family members and close friends as family (Fig. 6.11).

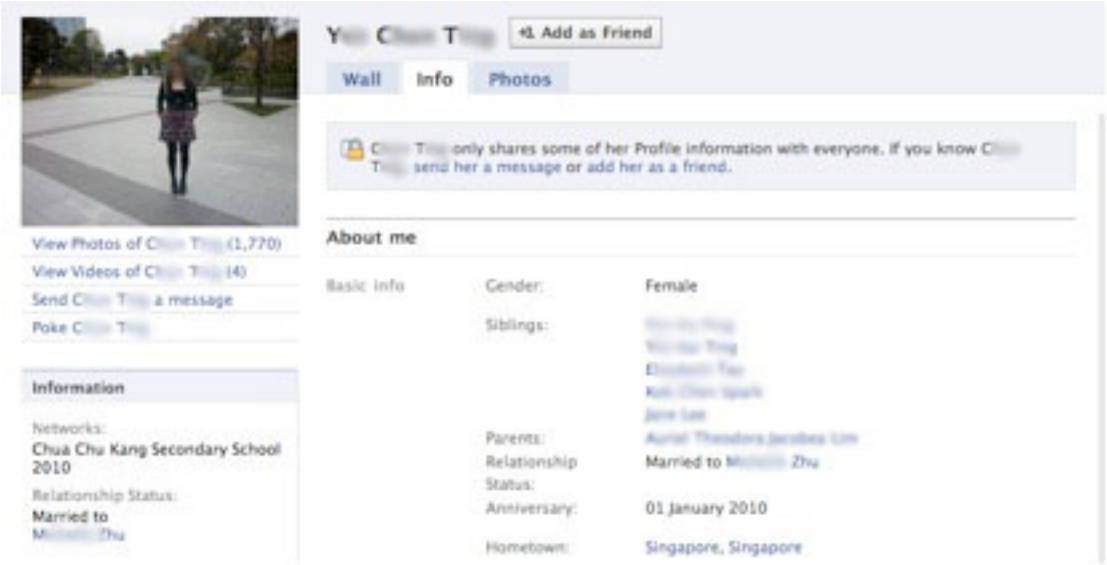

Fig 6:11: Singaporean youth's profile where youth has parents as friends on Facebook

My results also contribute to Donath and boyd's 2004 finding on how teenagers fabricate key identifying information such as names, age and location. From my

results, most (86%) youths use their real names in Facebook and choose to not reveal their age or location. I observe that youths create their autonomous space and forms of communication that are inclined towards Buckingham's (2008) suggestion that we are moving towards a more creative and innovative generation. This is further substantiated by Singaporean youths' novel use of monikers or real names within monikers. Some youths have also substituted their own photos with pictures of popular singers or anime characters, which are creative ways of not providing their personal information while displaying a part of their identity in terms of their popular culture preferences.

6.4.3 Virtual communities and network effect

From the literature, it is suggested that personal connections present in SNS are homogenous in nature. This is because when people socialize, they are attracted to others similar to themselves, thus reinforcing the possibility of homophily being present in SNS connections (Turchi, 2007). From the youths' profiles, I notice for photos depicting of a youth and a friend or a group of friends, 90% of such profile photos depict people who are members of the same age and demographic group (Fig. 6.12 and 6.13).

My results also resonates with Turchi's 2007 study, that homophily is present from how Friends list indicate youths from the same sub-groups; that internal homophily is reinforced when members invite their friends whom they think will fit in with the image they want to portray in Facebook. Singaporean youths

even adopt similar monikers to create a sense of community in Facebook. Such internal homophily, is also prominent in the profile photos (Fig. 6.12 and 6.13).

Fig 6.12: A profile photo of a group that belongs to the same demographic group

Fig 6.13: A profile photo of two groups of Singaporean youths that belong to the same demographic group

6.4.4 Identity, self-presentation and contextualizing in SNS

My findings also value add to the literature on identity and self-presentation in SNS, such as Donath and boyd's claims that the public displays of connections reveal the unreliability of the information in Facebook. My findings indicate that the limited information that is publicly available in Singaporean youths' private profiles suggests that there is a trend of omission rather than publishing of unreliable personal information. Youths who publish false information such as monikers in Facebook do not intend to lie or mislead, but use such personal information to identify with their friends. Also, since Singaporean youths use

Facebook to reconnect with acquaintances like friends and family, it is counter-intuitive to publish unreliable or false information.

From the profile photos and types of personal information in Facebook, we can observe how Singaporean youths converse through profiles. boyd and Heer (2006) state that youths in Facebook rely on interactions with other members in order to create the context of a digital environment. From my study, the information available publicly set the context for interactions where discussions about school, likes and interests occur. This can also be applied to the private profiles as well from my findings. A private profile sets the context for interaction to be just between friends, family and approved online friends in Facebook. The employment of privacy settings is related to impression management and how it is applied in SNS (Evens, Gosling & Carroll, 2008).

According to Tufeckci (2008), users of SNS are heavier users of the expressive Internet and that they pay more attention to social details and what other users say. Results from my study support this: Singaporean youths who use Facebook are more attuned to social information, which explains the customization of their Facebook profiles to display positive attributes, as well as enabling their privacy settings to prevent strangers from accessing their personal information and criticizing their photos or wall comments.

6.4.5 Privacy, surveillance and legal issues

Gross and Acquisti's (2005) as well as Rodrigues' (2008) concerns about the amount of information Facebook users provide about themselves, the relatively open nature of the information and lack of privacy control activated by the users are not substantiated by my content analysis findings.

The prevailing concern of SNS users exposing themselves to offline (e.g. stalking) and online (e.g. identity theft) risks is not an issue with Singaporean youths as none of them reveal their home address, home telephone number or mobile numbers publicly in Facebook. Singaporean youths who reveal online personal contact information such as instant messaging usernames are also in the minority (5%).

Finally, the findings from the content analysis also support the literature of the MySpace study conducted by Dwyer, Hiltz and Passernini (2007), who put forth that online relationships can develop in sites where privacy safeguards are weak, as evinced from how some of the youths' Friends list display over 1000 friends.

6.5 Laying groundwork for online surveys

From the content analysis, questions pertaining to the types of personal information revealed in Facebook as well as the breakdown of private and public Facebook profiles among Singaporean youths have been answered. Although the results of the content analysis demonstrate that Singaporean youths are aware

of and utilize Facebook's privacy safeguards, there is need to examine the extent of information revealed, even for private profiles.

Using the results from the content analysis as a framework, online surveys for the youths were created to obtain their privacy attitudes as well as utilization of Facebook settings. This will help to facilitate better understanding of youths' privacy perceptions and personal information disclosure based on the findings of content analysis and the online surveys.

Chapter 7: Findings and discussion – Online Surveys

7.1 Overview of chapter

The findings and analysis of the content analysis were discussed in the previous chapter. From the content analysis, I gleaned a micro-perspective of how Singaporean youths managed their Facebook profiles via their utilization of privacy settings. The results also provided foundation for survey questions investigating the use of privacy settings; as well as surmising Singaporean youths' attitudes towards personal information disclosure and online privacy.

In this chapter, findings from the online surveys for parents and youths shall be used to address RQ2, RQ3, RQ4 and RQ5 (refer to page 55). Some themes that were covered by the survey questions include: i) youths' attitude towards disclosing their personal information online and their online privacy perceptions, ii) parents' attitudes towards disclosing personal information online and their online privacy perceptions, as well as iii) discrepancies, if any,

between the attitudes and perceptions of parents and youths. This chapter shall then proceed to conclude with how the survey findings contribute to the existing literature of SNS and related topics.

7.2 Representativeness of survey participants and data storage

One of the aims of conducting online surveys for both Singaporean parents and youths is to aid in understanding their attitudes and values. For the youths, understanding their attitudes and values towards online privacy and information disclosure would aid in comprehending how they utilize Facebook's privacy settings. Since most of the youths' Facebook profiles for the content analysis are set to private, the online surveys will aid in understanding types of personal information revealed in the private profiles.

Both surveys were conducted via snowball sampling of Singaporean secondary school students and parents with children of secondary school-going age. There were more female (73.6%) than male (26.4%) youth respondents from independent/autonomous (17.3%) and government (82.7%) schools. There were also more female (68%) than male parent respondents (32%) with most (91.2%) of them in white-collared industries.

Both the online surveys were created using survey software and the results were stored in the servers till the end of the data collection. The results of the surveys were downloaded from the servers at the end of the data collection and saved in my laptop for data compilation and analyses using statistical software.

7.3 Addressing the research questions

RQ2: What is the extent and nature of information disclosure by Singaporean youths?

Types of information I post on my Facebook profile	Number of youths (n=258)	Percentage of students
My name	249	96.5%
My school name	144	55.7%
My email address	178	68.8%
My home address	4	1.6%
My mobile number	13	4.9%
My blog address/website	59	22.9%
Twitter/Plurk username	17	6.6%
My instant messenger (IM) username	38	14.7%
Personal picture of myself	173	67.2%

Table 7.1: Types of information Singaporean youths post in Facebook

From the survey results, there are more public Facebook profiles (34%) among Singaporean youths as compared to the results from the content analysis (1%). A possible reason for this considerable disparity may be due to the network sampling method employed for content analysis. Encountering youths who own private Facebook profiles where they reveal their school networks would likely lead me to their friends on Facebook who also reveal their school networks on their private Facebook profiles.

	Blog address	IM username	Twitter username	Home Address	Residential area	Mobile number	Home number	Email address
1(Most private)	13	4	0	**165**	13	38	21	8
2	17	4	0	17	51	80	**93**	0
3	17	4	4	38	17	**89**	**89**	4
4	25	42	4	8	**85**	30	30	38
5	55	34	38	8	34	4	13	**76**
6	42	**93**	21	0	51	4	0	51
7	**80**	51	38	17	17	0	8	51
8 (Least private)	68	8	**144**	0	13	4	0	25

Table 7.2: Privacy values attached to types of personal information in Facebook

From the two tables above, we can see that Singaporean youths generally reveal in their Facebook profiles online personal information that they feel are less private, from the ranking in Table 7.2: email address, IM username and blog address. Based on the content analysis, the types of offline personal information posted in Facebook are limited to real names and photos. Most (79%) youths use their photos as profile photos and their real names in Facebook.

Also, from Tables 7.1 and 7.2, we are able to discern the top four types of personal information youths deem most private, in descending order: home address, home number, mobile number and residential area, which are also the least frequent personal information disclosed in Facebook in both public and private profiles.

Thus, we can conclude that youths view their offline personal information as more private than their online personal information. This is indicative of their attitudes towards online privacy: as they are less likely to share their offline personal information vis a vis their online personal information in an online environment. This attitude is extended to their status updates, where 26% of youths reveal their physical location in their Facebook.

Given the nature of the online environment, youths were also asked about the veracity of their personal information in Facebook. The results are tabulated below:

Types of profile information which are true	Number of youths (n=258)
School	165
Name	211
Age	118
Email Address	178
Mobile number	8
Home address	2
Personal information: Likes, activities, favorites	165
Date of birth	199
Education and work	131

Table 7.3: Veracity of personal information that Singaporean youths post on Facebook

From Table 7.3, we can see that other types of offline personal information that youths post in Facebook include their date of birth (199) and education-related information (131). The discrepancy between age (118) and date of birth (119) may be attributed to Facebook's policy of only allowing teenagers 13 and above register for a Facebook account, which may result in youths including only the month and day without displaying their birth year. The discrepancy between Tables 7.1 and 7.3 for mobile number (13 versus 8) and home address (4 versus 2) suggest that the offline personal information in Facebook may not be true.

Based on the survey results, only a few youths reveal their home address (2%) and mobile number (5%) in their Facebook profiles. This is somewhat consistent with the findings of the content analysis; where it was observed that youths who post their mobile numbers in Facebook have private profiles, where only family members and friends have access.

Therefore, from the findings, it may be concluded that in terms of the nature of personal information posted in Facebook, youths are more forthcoming with sharing their online than their offline contact information. Youths are more likely to post the truth about their schools, names, email addresses, dates of birth and their preferences and activities in Facebook.

RQ3: To what extent are Singaporean parents aware of the nature of information disclosure that their teenage children reveal in Facebook?

In order to understand the extent to which Singaporean parents are aware of their teenage children's nature of information disclosure in Facebook, we need to ascertain parents' knowledge of their children's level of information privacy in Facebook. To achieve that, we need to establish what the parents think their youths are posting on Facebook and compare it to what the youths are posting.

Similar questions were posed in the online surveys to both the parents and youths: parents were also asked basic questions on how familiar they are with Facebook; if they owned a Facebook account, their Facebook privacy settings; whether they speak to their children about information privacy protection online, and whether they are aware of their teenage children using Facebook's privacy settings.

Topics discussed with your teenage children about online safety	**Number of parents (n=101)**	**Percentage of parents**
Revealing personal information online	101	100%
Chatting with strangers	91	90.9%
Posting pictures and videos of themselves online	82	81.2%
Revealing their whereabouts and activities online	82	81.2%

Table 7.4: Topics about online safety that parents discuss with their teenagers

Steps to enhance your teenager children's online safety	Number of parents (n=101)	Percentage of parents
Talk to my teenager about online safety	101	100%
Show my teenager reports of online bullying, incidences harassment, etc.	90	89.1%
Install software to monitor my teenager's online activities.	47	46.5%
Install software to prevent my teenager from accessing certain websites.	38	37.7%
Restrict usage of computer to schoolwork, checking of email.	21	20.7%
I do not do any of the above, I believe my teenager is safe online.	21	20.7%

Table 7.5: Steps taken by parents to enhance their teenagers' online safety

From Tables 7.4 and 7.5, 100% of have heard of Facebook and 82% of them are on Facebook. Of the parents who are on Facebook, all of them have set their Facebook privacy settings to medium and high, which support that most parents understand the workings of the privacy settings and are mostly privacy-oriented.

From Tables 7.4 and 7.5, 100% of parents have spoken to their children about protecting personal information online, with the most frequent online safety discussion topics being revealing personal information online (100%) and chatting with strangers online (90.9%). From the tables, it is also noted that Singaporean parents favour non-technical methods to enhance their teenagers' online safety, such as talking to them (100%) and showing them incidences of online dangers (89%) over installing software (46.5%) and restricting their teenage children's online activities (20.7%). This demonstrates the trust that parents have in their teenage children when it comes to online safety.

Out of the 101 parents who completed the survey, 82% claim to be aware of their teenage children possessing a SNS profile and 64% are aware of their teenage children using Facebook privacy settings. However, bearing in mind that in surveys, respondents tend to overstate their claims, questions that test parents' knowledge of their children's Facebook information privacy were also asked. For personal information disclosure in Facebook, 82% of parents believe that their children use real names in Facebook, vis a vis 82% (Table 6.3) of youths who use their real name in their Facebook profiles. From this, it can be postulated that most parents are aware of the basic types of personal information disclosure by youths in Facebook.

How often do you think your child uses Facebook?	**Number of parents (n=101)**	**Percentage of parents**
A few times a month	9	8.9%
A few times a week	37	36.6%
Daily	28	27.7%
More than once a day	27	26.7%

Table 7.6: Parents' impression of their teenage children's Facebook usage

How often do you use Facebook?	**Number of youths (n=258)**	**Percentage of youths**
A few times a month	13	4.9%
A few times a week	102	39.5%
Daily	84	32.6%
More than once a day	59	22.8%

Table 7.7: Youths' Facebook usage

Types of information your teenager posts in his/her Facebook profile	Number of parents (n=101)	Percentage of parents
Blog address	56	55.4%
Instant messaging (IM) username	48	47.5%
Twitter username	3	3.0%
Home address	37	36.6%
Residential address	37	36.6%
Mobile number	0	0%
Home number	0	0%
Email address	97	96%

Table 7.8: Types of information parents think their teenage children post in Facebook

Comparing the results of the parents' knowledge of youths' information privacy vis a vis the youths' answers to similar questions in the tables above, the most common types of information youths (Table 7.1) post in their Facebook profiles are email addresses, blog addresses, IM and Twitter usernames, which is the same order as what parents think youths reveal in Facebook (Table 7.8).

In terms of their knowledge on their teenage children's Facebook habits, 64% of parents think their teenage children are on Facebook everyday or a few times a week. This observation concurs with the youths' responses on their frequency of Facebook usage (Table 7.7). This lends credence to the parents' claim on possessing an understanding of their teenage children's Facebook usage.

However, from Table 7.8, 37% of parents think their teenage children reveal their home address, when only 2% of youths reveal it in their Facebook profiles. Interestingly, parents do not think that their teenage children post information

such as their home and mobile numbers on their Facebook profiles, which is contrary to what youths claim to reveal about themselves in Facebook. Although a minority, some youths (5%) do reveal their mobile numbers in Facebook.

Perhaps a reason as to why Singaporean parents in general have a good understanding of their teenage children's Facebook personal information disclosure and habits stem from their teenage children being their source of knowledge about online safety (Table 7.9).

	Conversations with my children	Newspapers	Friends	Family	Magazines	Schools	Government	Internet	Books
1 (Most frequent)	**90**	21	0	0	0	3	4	0	0
2	10	33	0	**36**	0	9	0	0	0
3	0	17	**21**	17	11	3	6	20	0
4	0	20	**27**	0	11	26	5	0	7
5	0	0	11	18	26	0	**31**	6	0
6	0	10	11	12	14	**30**	0	0	17
7	0	0	31	3	26	0	7	**31**	0
8	0	0	10	4	0	**27**	8	18	18
9 (Least frequent)	1	0	0	1	0	0	19	7	**38**

Table 7.9: Parents' most frequent sources of information for online safety

Parents' top three sources of information for online safety, in descending order, are: conversations with children; family; friend. It seems like word of mouth works better for parents than official sources such as magazines or books. This suggests that online safety discussions between parents and youths are not one-way dialectic discussions, but rather, a two-way communication process where parents learn from them as well.

Overall, some Singaporean parents demonstrate a good understanding of their children's Facebook habits and the personal information their youths disclose in Facebook. However, Singaporean parents are aware that some youths post their home addresses and mobile numbers. Instead of dismissing Singaporean parents as unaware; from the way the question was posed in the survey, parents may believe that other youths post their home addresses and mobile numbers on Facebook, but not their own youths.

RQ4: How safe do Singaporean parents perceive their teenage children to be in Facebook?

Singaporean parents are generally concerned about their teenage children's safety online, with 36% of parents who do not think that their teenage children are safe online from harassment from strangers and 90% who do not think that Facebook is safe for posting personal information.

However, Singaporean parents mitigate their concerns by keeping abreast of their youths' online activities by talking to them about online safety (100%) and showing them reports of online bullying and harassment (89.1%) (Table 7.5). Although parents are involved in their youths' online safety education, 64.4% find it difficult to monitor their youths' activities online and 92% feel that schools should take on a bigger role in educating youths about online safety.

Concerns about teenage child's online social interactions	Number of parents (n=101)	Percentage of parents
Spending too much time online at the expense of schoolwork	73	72.3%
Meeting strangers online	37	36.6%
Making friends with unsavory characters online	18	17.8%
Spending too much time online at the expense of other offline activities	55	54.5%

Spending too much time online at the expense of sleep and health	83	82.2%
Me as a parent not knowing what my child is doing online	28	27.7%
My child posting too much personal information (mobile number, address) online	27	26.7%

Table 7.10: Parental concerns about teenage children's online social interactions

From Table 7.10, when it comes to the aspects of their teenage children's online social interactions, parents are more concerned that their teenage children are spending too much time online at the expense of sleep and health (82.2%) and schoolwork (72.3%); rather than their children meeting strangers online (36.6%) or their children posting too much personal information online (26.7%).

How Facebook aids in your child's development	**Number of parents (n=101)**	**Percentage of parents**
Develop better social skills	64	63.4%
Promote more interaction with peers	73	72.3%
Understand how the Internet works	46	45.5%
Be up to date on technological trends	55	54.5%
Help with projects and school assignments	46	45.5%
Keep in touch with friends and classmates	92	91.1%

Table 7.11: Parents' perceptions of how Facebook aids in teenage children's development

Besides Singaporean parents' concerns about Facebook, from Table 7.11, Singaporean parents acknowledge that Facebook can aid in their children's development by helping them keep in touch with friends and classmates (91.1%), promoting more interaction with peers (72.3%) while developing better social skills (63.4%).

Overall, Singaporean parents are skeptical about their teenage children's safety in Facebook. However, their cautiousness is tempered with an acceptance of how they are unable to keep an eye on their teenage children's activities online all the time. Singaporean parents are not passive: they discuss with their youths about online safety. Singaporean parents also acknowledge the benefits of Facebook for their youths' development and prioritizing physical and mental well-being highly when it comes to youths and the Internet.

RQ5: Are there disparities between youths' and parents' perceptions of the risks of information disclosure vis a vis Facebook?

In order to gain a better understanding of youths' and parents' perceptions of the risks of information disclosure in Facebook, their attitudes and privacy values were assessed.

Parents' and youths' attitudes towards privacy were determined using a five-point Likert scale attitude survey. During computing of the responses for data analysis, "Strongly agree/Agree" and Strongly disagree/Disagree" responses were pooled, to create three major columns, not five. This is to get a general sense of the respondents' privacy perceptions. They are broken down into three sets of figures: the mean, female and male responses (Table 7.12).

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Privacy Perception	Female	190	2.3184	.72003	.05224
Mean	Male	68	2.3456	.63632	.07717

Table 7.12: Privacy perceptions of youths

The privacy perceptions of males (M = 2.35, SE = 0.077), are similar to females youths (M = 2.32, SE = 0.052). The lower the mean, the more privacy-oriented the individual. The distribution between females and males is also mixed, with more female (N = 190) than male youths (N = 68) participating in the study.

Group Statistics

	Category	N	Mean	Std. Deviation	Std. Error Mean
Privacy Perception Mean	Student	258	2.3256	.69783	.04345
	Parents	101	2.7178	1.00602	.10010

Table 7.13: Privacy perceptions of parents and youths – Independent-samples t Test

Independent Samples Test

		Levene's Test for Equality of Variances	
		F	Sig.
Privacy Perception Mean	Equal variances assumed	17.719	.000
	Equal variances not assumed		

Table 7.14: Privacy perceptions of parents and youths – Independent-samples t Test

Independent Samples Test

		t-test for Equality of Means		
		t	df	Sig. (2-tailed)
Privacy Perception Mean	Equal variances assumed	-4.197	357	.000
	Equal variances not assumed	-3.594	139.297	.000

Table 7.15: Privacy perceptions of parents and youths – Independent-samples t Test

From the above tables, an independent-samples t test comparing the mean scores of the parents and youths found a significant difference between the means of the two groups ($t(357)=-4.19$, $p < .001$). The mean of the parents was higher ($m=2.72$, $sd=1.00$) than the youths ($m=2.33$, $sd=.70$). The t-test revealed that parents are significantly more guarded about privacy ($M = 2.72$, $SE = 0.10$) than youths ($M = 2.33$, $SE = 0.043$), $t(357) = -4.19$, $p < .001$, $r = .22$.

After gleaning an understanding of Singaporean youths' general online privacy perceptions vis a vis parents, I proceeded to segment the parents and youths according to their privacy values using the Westin privacy segmentation into three groups: privacy fundamentalists, privacy pragmatics and privacy unconcerneds. Both parents and youths were asked a series of questions based on the Westin classification.

Based on their responses, parents and youths are mapped to the Westin privacy segmentation (Harris, 2003), which divides the population into three groups based on their level of concern with regard to privacy.

From these five questions, a youth or parent is classified as a Privacy Fundamentalist if he/she gave a privacy-oriented response to at least three of these five questions. The lower the mean, the more privacy-oriented an individual is. This is because the lower the mean, the more the individual strongly agrees/agrees with privacy-oriented statements. Privacy Pragmatists

rate their concern about privacy in their everyday lives, online privacy and information privacy significantly lower than Privacy Fundamentalists ($p < .05$ for all), resulting in a higher privacy perception mean for Privacy Pragmatists than Privacy Fundamentalists. Privacy Unconcerned parents and youths rate the same questions significantly higher than Privacy Pragmatists ($p < .05$ for all), resulting in higher mean for Privacy Unconcerneds than Privacy Pragmatists.

Parents and youths are categorized based on their answers to these questions:

i) For the purpose of this study, privacy is defined as "personal information which is confined to or intended only for, a certain person/group of people, and not anyone else". State your level of agreement with this statement.

ii) In general, you are concerned about your privacy when using the Internet.

iii) Facebook is not safe for the posting of personal information (mobile number, addresses).

iv) It is important to maintain personal information privacy (e.g. mobile number, contact information) in Facebook.

v) I can count on Facebook to protect my privacy.

Reliability Statistics

Cronbach's Alpha	N of Items
.668	5

Table 7.16: Cronbach's alpha for Westin privacy segmentation

Item Statistics			
	Mean	Std. Deviation	N
Facebook is not safe for the posting of personal information (mobile number, addresses).	2.9612	1.06521	258
I feel it is important to maintain information privacy (e.g. mobile number, contact information) in Facebook.	1.6899	.84428	258
In general, you are concerned with your privacy while using the Internet.	1.8760	.81339	258
I can count on Facebook to protect my privacy.	3.1008	1.09718	258
For the purpose of this study, privacy is defined as "personal information that is confined to or intended only for, a certain person/group of people, and not anyone else". State your level of agreement with this statement.	1.6899	.84428	258

Table 7.17: Reliability statistics for Westin privacy segmentation dimensions – youths

From the statistical analysis conducted on the questions posed to parents and youths, the five questions are shown to display internal consistency based on the value of Cronbach's α. Cronbach's α indicates how the above statements are related based on the concept of privacy. The reliability coefficient for the five questions show high reliability, Cronbach's α = .67.

From the item statistics, we can see that for Singaporean youths, their mean for questions on general privacy, information privacy and online privacy is less than two, which means that most of the youth respondents are privacy-oriented. However, they maintain a neutral position on questions pertaining to trusting Facebook with their personal information.

Westin privacy segmentation - Youths

Statistics		
Category		
N	Valid	258
Mean		1.4109
Mode		1.00

Category

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	160	44.6	62.0	62.0
	2.00	90	25.1	34.9	96.9
	3.00	8	2.2	3.1	100.0
	Total	258	71.9	100.0	
Total		258	100.0		

Table 7.18: Percentage of youths who are Privacy Fundamentalists/Pragmatists/Unconcerneds

From the above results, Categories 1, 2 and 3 refer to respondents' privacy orientation based on the mean of the five questions. Category 1 respondents are Privacy Fundamentalists, Category 2 Privacy Pragmatists and Category 3 Privacy Unconcerneds. From Table 7.18, it can be surmised from the mean that youths privacy-oriented. Most youths are Privacy Fundamentalists (44.6%) and Privacy Pragmatists (25.1%), with 8% Privacy Unconcerneds.

From the findings, it can be surmised that youths do value privacy. Also, the privacy values in their everyday life are extended to their privacy perceptions online and encompass the protection of their personal information on Facebook.

Westin privacy segmentation - Parents

Statistics		
Category		
N	Valid	101
Mean		1.534

Statistics		
Category		
N	Valid	101
Mean		1.534
Mode		1.00

Category					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	92	91.1	91.1	91.1
	2.00	0.0	0.0	0.0	0.0
	3.00	9	8.9	8.9	100.0
	Total	101	101	100.0	
Total		101	100.0		

Table 7:19: Percentage of parents who are Privacy Fundamentalists/Pragmatists/Unconcerneds

The results for Singaporean parents indicate that most (91.1%) parents are Privacy Fundamentalists and 9% Privacy Unconcerneds. It is interesting to note for parents, there are no Privacy Pragmatists. This seems to indicate a disparity among parents when it comes to privacy-orientation.

It is not unexpected that is a higher percentage of parents who are Privacy Fundamentalists compared to the youths. Since the privacy attitudes mean for both parents and youths are less than two, both groups are privacy-oriented and concerned about their offline/online privacy and information privacy.

However, parents are more skeptical when it comes to trusting Facebook with their personal information, with 99% Privacy Fundamentalists while 25.1% of youths taking on a more Privacy Pragmatist perspective. Therefore, youths are more likely than their parents to post their personal information on Facebook, even though 54% of youths have not read Facebook's privacy policy.

One-way ANOVA – Parents and youths

Privacy Perception Mean

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	11.867	3	3.956	6.223	.000
Within Groups	225.660	356	.636		
Total	237.526	359			

Multiple Comparisons

Privacy Perception Mean
LSD

(I) Gender	(J) Gender	Mean Difference (I-J)	Std. Error	Sig.
Female Student	Male Student	-.02717	.11267	.810
	Female Parent	-.33783*	.11523	.004
	Male Parent	-.50590*	.14327	.000
Male Student	Female Student	.02717	.11267	.810
	Female Parent	-.31066*	.13885	.026
	Male Parent	-.47874*	.16287	.004
Female Parent	Female Student	.33783*	.11523	.004
	Male Student	.31066*	.13885	.026
	Male Parent	-.16807	.16466	.308
Male Parent	Female Student	.50590*	.14327	.000
	Male Student	.47874*	.16287	.004
	Female Parent	.16807	.16466	.308

Table 7.20: Comparison of privacy perception means across gender for parents and youths

A one-way ANOVA was computed comparing the privacy perceptions of parents and youths, as well as among parents and youths, segmented by gender as an independent variable. The analysis revealed that there is no significant difference between parents and youths ($F(3, 355)= 6.22, p < .01$).

Additional findings from the online surveys indicate that although 72% of student respondents are concerned about the consequences of sharing personal information on Facebook, there exists a conundrum. 31.4% of youths do not trust Facebook with the safekeeping of their personal information and 19.8% feel that it is important to maintain information privacy in Facebook, yet youths are still posting their personal information in Facebook.

While parents and youth assent with their general perceptions of online privacy, a palpable difference in Facebook privacy perceptions exists, with 90% of parents who are critical of information privacy in Facebook vis a vis 31.4% of youths. This difference may be explained by how youths (67%) feel that their friends are able to understand them better via Facebook, which is why although youths do not fully trust Facebook's privacy safeguards, they still post their personal information. However, the types of personal information posted by youths in Facebook may be affected, as evinced from how most youths do not post personal information such as their residential address and mobile numbers in Facebook.

7.4 Discussion from findings of online surveys

7.4.1 Youths' self-assessment of Facebook's privacy safeguards

From the literature on privacy surveys, one of the common challenges of privacy surveys is the tendency of subjects to over-report their understanding of privacy-related issues and their willingness to act in order to protect their privacy.

In the context of this study, youths may feel that the onus is on them and not Facebook to protect their personal information. Therefore there is need to assess youths on their knowledge on Facebook's privacy safeguards.

In order to determine if a perception gap is present, a knowledge challenge was included in the survey. The challenge was based on one of the most commonly used features in Facebook – photo tagging. This question tested youths' understanding of how Facebook's privacy settings work.

Youths were posed the following question in their online survey:

"Your friend has taken photos of you and posted them in his Facebook albums which he has set to private (only his friends are able to view) and tagged you. Who do you think will be able to see photos of you? Select as many as apply."

Youths were then provided a list of options. How the knowledge challenge worked was to sieve out those who were aware of Facebook's photo tagging privacy settings. Out of the list of six options, only four are correct, based on

Facebook's latest privacy safeguards as of March 2010. Only youths who selected all four of the options were correct, any youth who selected more or less than the four correct options was deemed to have answered the question incorrectly. Out of the 258 youths, 150 passed the knowledge challenge.

Comparing the percentage of youth respondents who got the knowledge challenge correct (58%) to the percentage of youths who claimed they were aware of Facebook's privacy safeguards for photos and videos (74%), there is a discrepancy between what youths claim to know about Facebook's information privacy safeguards and their actual knowledge of the privacy safeguards.

A dissonance between what youths think they know and how much they actually know about Facebook's privacy settings may result in them being lulled into a false sense of security. They may reveal more personal information in Facebook without fully understanding that strangers on Facebook have access to their personal information.

7.4.2 Knowledge versus practice

Following up on the comparison between what youths claim to know about Facebook's privacy safeguards to what they actually know, it is pertinent to not only understand youths' knowledge of Facebook's privacy settings, but also how much of what they understand is translated into action.

With two-thirds (67%) of the youth respondents setting their Facebook privacy at medium and high, which is supported by the content analysis findings indicating that most youths have private profiles, it is apparent that youths are aware of Facebook's privacy safeguards. Youths were also asked about their level of awareness of the privacy settings for the various Facebook subsections – About Me (IM screen name, mobile number, address, website); Personal Information (interests, activities, favorites); Birthday; Religious and political views; Family and relationship; Photos and videos; Education and work.

Aware of the following privacy protection settings:	**Number of youths (n=258)**	**Percentage of youths**
"About Me": IM screen name, mobile phone, other phone, address	211	81.7%
"About Me": Website, Hometown/City	169	65.5%
"Personal information": Interests, activities, favourites	169	65.5%
"Birthday": Date of birth	187	72.5%
Religious and political views	152	58.9%
Family and relationship: Family members, relationship status	173	67%
Photos and videos	190	73.6%
Education and work	156	60.5%

Table 7.21: Percentage of youths who are aware of the various Facebook privacy safeguards

From Table 7.20, all the Facebook types of personal information had more than 50% positive response rate from youths, with the top three privacy settings that youths are aware of, in descending order: "About Me – IM screen name, mobile number, address" (81.7%); "Photos and videos" (73.6%); and "Birthday" (72.5%).

Utilize following privacy protection settings:	Number of youths (n=258)	Percentage of youths
"About Me": IM screen name, mobile phone, other phone, address	169	65.5%
"About Me": Website, Hometown/City	97	37.6%
"Personal information": Interests, activities, favourites	97	37.6%
"Birthday": Date of birth	114	44.2%
Religious and political views	72	27.9%
Family and relationship: Family members, relationship status	106	41.1%
Photos and videos	148	57.4%
Education and work	93	36.0%

Table 7.22: Percentage of youths who utilize the various Facebook privacy safeguards

From Table 7.22, two types of personal information obtained a greater than 50% positive response rate. The top three types of personal information which Singaporean Facebook users activate privacy settings for are: "About Me – IM screen name, mobile number, address" (65.5%); "Photos and videos" (57.4%) and "Birthday" (44.2%). Based on Tables 7.20 and 7.21, the top three types of personal information for awareness are also the top three types of personal information which youths utilize privacy safeguards.

This set of findings is backed up with the results of the content analysis of the Facebook profiles conducted prior to the surveys. For the youths' private profiles on Facebook, none publicly displayed IM screen names, mobile numbers or address as well as photos and videos.

When comparing Tables 7.19 and 7.20, it was noted that only "About Me – IM screen name, mobile number, address" and "Photos and videos" achieved a greater than 50% positive response for both tables. From this, it can be deduced that youths deem personal information like mobile numbers, residential addresses, IM usernames and their photos and videos as personal information that are more private than education and work. The percentage of youths who utilize privacy protection settings for photos and videos was the same as the number of youths who answered the knowledge challenge correctly – 58%, which can be used to support the reliability of the knowledge challenge.

Therefore, it can be concluded that the types of personal information youths consider most private – mobile numbers, home addresses and numbers, photos and videos are unique and have identifiers imbued in them. Mobile numbers and addresses are information unique to the individual; photos and videos identify and single out an individual from the group. Other types of personal information such as IM and Twitter usernames offer some form of anonymity, "Interests, activities and favourites", "Religious and political views" as well as "Education and Work" allows youths to blend into a group identity; thus, revealing one's secondary school is deemed less of a privacy risk as compared to revealing one's residential address or mobile number publicly on Facebook.

Finally, the results from comparing the level of awareness and level of utility of Facebook's privacy safeguards also confirm the presence of a perception gap,

where youths think they understand the workings Facebook's privacy settings when they actually do not.

7.5 Contribution of study to current literature

7.5.1 Negotiation and management of identity in Facebook

From current SNS literature, boyd (2008) concluded that youths believe that SNS should be their private space online while most parents disagree with this, as they believe that nothing posted online is private. Findings from my study support the parents' perspective. From my online surveys, Singaporean parents are generally Privacy Fundamentalists who are privacy-oriented and are distrustful of Facebook's privacy safeguards. From the surveys, most youths' Facebook profiles are set to private, lending credence to boyd's conclusion.

7.5.2 Parental concerns and Facebook

As the online surveys were targeted at both parents and youths, I managed to glean information on the privacy perceptions from both demographics and obtained a more holistic understanding of parental concerns vis a vis Facebook.

My findings support Buckingham's study in 2008, that parents tend to lean towards the critical view of digital technology but are also aware of the permanence of technology and it is to their children's benefit to be familiar with the technology. Singaporean parents are concerned about their youths' safety online, but also believe that Facebook is beneficial to their youths' development.

Singaporean parents are keen to improve their children's educational prospects via SNS, but are also concerned about online dangers, which reasonates with the

conclusions drawn by Turow and Nir (2000), Livingstone (2002), and (2003). I found that Singaporean parents are wary of online privacy but believe that SNS is becoming a mainstay in the lives of their teenage children. My findings corroborate with the research of Turow and Nir (2000), Livingstone and Bovill (2001), Buckingham (2002), that parents believe SNS can help in their youths' development; helping them do better in school and learn useful knowledge.

Amidst Singaporean parents' general optimism with regard to Facebook, they share the same concerns as other parents about Facebook displacing more worthwhile activities. Previous studies by Punamaki and et. al.(2006) and Kim and et. al.(2009), concur with my findings that Singaporean parents main concerns about their teenage children SNS usage, is not limited to online safety. Parents are more concerned about how their teenage children are spending too much time on Facebook and neglecting their schoolwork, other offline activities, their health and sleep.

From previous studies by Livingstone and Bober (2006), parents, underestimate the risks their youths are experiencing online. Parental anxieties tend towards being ill-informed and ineffective in supporting regulation. To some extent, this is true – my findings indicate that parents are unaware that youths are posting information such as residential areas and mobile numbers in Facebook. This may lead to Singaporean parents underestimating the risks their children are experiencing online. A possible reason for this suggested by Finkelhor, Mitchell

and Wolak (2000) and Cameron and et. al.(2005) might be because parents are unaware of what their children view online. While this may be true to some extent, I note that Singaporean parents take a pro-active stance in understanding the activities that youths are engaging in Facebook.

A study by Fleming, et. al, (2006) revealed that youths aged 13-14 whose parents did not discuss Internet safety with them are less conscious about safety online, which may lead to them posting personal information without knowledge of the possible repercussions. From my findings, Singaporean parents discuss online safety with their youths, which may explain for Singaporean youths being privacy-oriented as well. The discussions are two-way, as Singaporean parents cite conversations with their youths as their main source of information for online safety.

Lastly, my findings resonate with the discussions of scholars like Williams (2000) and Berson and Berson (2003, 2005), where parents are urging schools to take up a more prominent role in educating and guiding youths about online safety.

7.5.3 Policy and Facebook

My findings agree with literature from Sithigh (2008) that some youths do not read Facebook's privacy policy. This is a preamble to discussions by Livingstone and Bober (2006) on allocating responsibility for overseeing youths online; not only how to apportion such responsibilities, but also how to ensure coordination

across them. Within this, a key point of contestation is how far to devolve responsibility from the state to the industry (via self regulation) or to the individual citizen (mainly parents).

To address this issue of allocating responsibilities adequately, a realistic understanding of youths is required to avoid assuming a wholly positive view of their critical intelligence and social responsibility. From my findings, while most youths are Privacy Fundamentalists or Privacy Pragmatists, they are also willing to compromise their online privacy by posting personal information in Facebook although they do not wholly trust Facebook. However, they mitigate the risks online by not revealing private personal information like their residential address. The personal information disclosure behaviors displayed by youths concur with boyd's (2008) suggestion that this is feeling of being exposed the price that we have to pay to enjoy social convergence.

Holloway and Valentine (2003) discussed how the anxieties of some parents about what their children may do or encounter online are exacerbated by the parents' own lack of ICT skills. Also, there may be some dissonance present between youths' perceived danger online and their parents', caregivers' and educators' perspectives (Herring, 2008).

This suggests that while looking at the responses of the majority, the perceptions of the minority may also warrant a closer inspection. From my findings, this

concern is valid – most of my parent respondents are white-collar workers and professionals. Therefore my findings for parents, aside for its lower than expected response rate, cannot be taken to represent the perspectives of blue-collar workers, because parents as a demographic group is not homogenous. The heterogeneous mix for parents, educators and the government will have implications for the crafting of relevant and inclusive policies and campaigns.

Chapter 8: Conclusion

This chapter concludes the study by discussing its limitations as well as implications on policymaking. Proposals and suggestions for future studies shall also be addressed.

8.1 Summary of findings

It should be mentioned from the onset that the results for this study lack representativeness due to the constraints faced during data collection. However, for an exploratory study, the results do make a contribution in making a headstart with the aim of facilitating a better understanding of the privacy perceptions and attitudes of Singaporean youths and their parents.

From the content analysis and online surveys conducted, it may be surmised that Singaporean youths are generally privacy-oriented, are aware of and utilize Facebook's privacy settings. They also have their creative methods of masking their personal information online. However, they are willing to disclose personal information in Facebook although they do not trust Facebook. They manage the risk of personal information disclosure by not revealing their offline contact

information publicly. It is observed that there is a privacy continuum with respect to the types of personal information revealed. The more sensitive and private personal information such as residential addresses and mobile numbers are less likely to be revealed by youths in their Facebook profiles. From the above, we can see that Singaporean youths manage privacy better than what has been reported in the media.

Singaporean parents are generally privacy-oriented as well. They are also aware of the personal information their youths reveal in Facebook and proactively engage them in conversations about online safety. They display trust in their youths' judgment on personal information disclosure, sometimes too much trust, as evinced from how they think that their youths do not reveal mobile numbers in Facebook. They are aware of the positive impacts of SNS and try to achieve a balance between caution and optimism about SNS.

The principal concern of parents relates to their perception that Facebook is a time-sink, rather than the Internet being a threat to their youths' personal safety. This perception echoes parental concern over television consumption, video games and other mediatized forms of youths passing time.

Also, while parents and youths have similar privacy values, youths are more likely to compromise on their privacy values to gain recognition and understanding from their peers.

Overall, the results of the study indicate that the fears surrounding the loss of privacy and online predation in Facebook may be exaggerated, at least for the sample that was under study. Although there are limits in terms of generalizing these results, further studies can be conducted to improve the validity and generalizability of this study.

8.2 Limitations of study

Limitations of this study include the sampling method for content analysis and the lack of representativeness for parent respondents.

The sampling method for content analysis, while steps were taken to try to ensure validity, may not be encompassing enough as only youths who displayed their school networks were selected for the content analysis. This was to ensure that the Facebook profiles selected belonged to secondary school students. Youths in Facebook who did not display their school networks were not selected, thus this might affect results of the content analysis. I mitigated the effects of the sampling method by ensuring representativeness in the Facebook profiles selected.

Parent respondents were mainly from white-collared professions, affecting the generalizability of the results. Parents from other professions might possess different online privacy perceptions and IT skills and this would have repercussions on how they guide their teenage children in SNS. However, as

privacy is an elastic concept, there is no single best method for guiding youths on online privacy. Technical knowledge can be picked up from parent-youths discussions about Facebook, where youths can explain the workings of the technology to parents. Having open channels of communication is thus the most important element when parents guide their youths on online privacy and personal information disclosure.

8.3 Implications of study on policy-making

The idea of responsibility is of interest to policymakers: not only how to apportion such responsibilities, but also how to ensure coordination across them. A key point of contestation is how far to devolve responsibility from the state to the industry (via self regulation) or to the individual citizen (mainly parents) (Livingstone & Bober, 2006). To answer this, the current situation is assessed from my findings before determining if a light touch is enough or if greater enforcement and policing is required.

For policy makers, the knowledge gleaned from this study can aid in formulating future policies and campaigns. My findings indicate how students utilizing Facebook's privacy safeguards understand its nuances better than students who are aware but who do not utilize the privacy safeguards. Hence, encouraging youths to try out the various levels of privacy safeguards in a hands-on fashion can be adopted to complement existing school talks and symposiums as awareness do not always translate into action for youths.

While my results that agree with Livingstone and Bober's 2006 study that youths' enthusiasm for SNS is resulting in some risky behaviors such as revealing offline contact information to strangers, such incidences are far and between for Singaporean youths. My findings indicate that currently, parents are aware of the risks their youths face online and are discussing with their youths to rein their enthusiasm and use SNS responsibly.

As my findings indicate that most Singaporean youths are aware of Facebook's privacy safeguards, perhaps the next level that parents and educators can engage with them during online safety discussions is to share how youths should be discriminating when it comes to adding friends on Facebook; especially since some youths disclose personal information such as mobile numbers in their profiles. Youths need learn to be either more discriminating when it comes to approving friends on Facebook, or to begin segmenting their friends into lists and assigning different levels of access to different lists of friends in Facebook.

The current light touch approach by parents and educators when it comes to youths' personal information disclosure in Facebook seems to suffice for now. However, policymakers should take note of the infrequent but significant cases when a dual or ambivalent perspective is recorded, such as youths not trusting Facebook completely but persist in revealing their personal information in Facebook. This suggests that youths also struggle to reconcile the concerns raised in mainstream media discourses accessible to themselves as well as their

parents, caregivers and teachers, with their own and their friends' experiences with the Internet.

Therefore, even though Singaporean youths are privacy-oriented, there has to be reinforcement by various parties – parents, educators, and policymakers, even peers, to ensure a safe and conducive SNS environment.

8.4 Suggestions for future research

The recent media coverage on the lapses in Facebook's privacy settings has shown how the issue of privacy in SNS is gaining salience. As Facebook's popularity grows and users disclose their personal information on the SNS, the impact of media discourse on Facebook users' level of awareness for personal information disclosure can be an area of academic interest.

For the field of online privacy and personal information disclosure, future research can go beyond examining technical privacy safeguards, after ascertaining that the technical privacy safeguards have been utilized to look at the influence of social capital on privacy. Currently, the trend in Facebook is social gaming, where users are adding strangers in Facebook to enlist their aid in completing tasks to progress in the games. These popular activities in Facebook and how they affect the level and nature of personal information disclosure in SNS demonstrate how privacy and social capital are related.

In conclusion, even as SNS become a mainstay in the lives of digital natives, it is still evolving as a phenomenon. This creates challenges for communication scholars who have to keep abreast of the latest developments. At the same time, the plethora of information available about SNS encourages discussion and is conducive to the creation of valuable insights, as well as vibrant and engaging dialogues between the industry, users and academics.

(29 330words)

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Appendices

Annotated diagrams for Facebook features

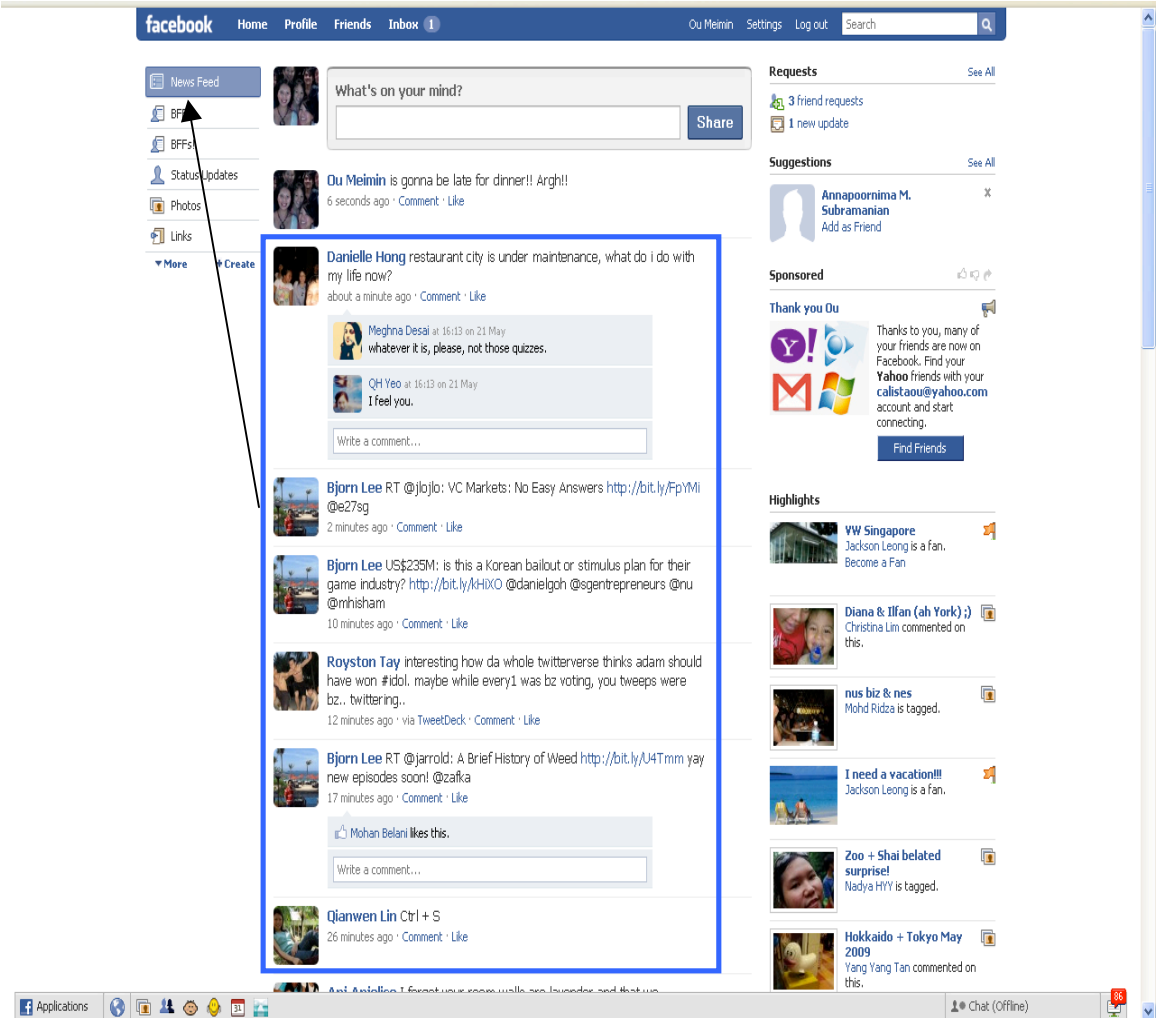

Figure 1: News Feed feature on Facebook

Figure 2: Facebook profile

A: Profile picture with links to the number of pictures and videos of user below the picture

B: Personal information (location, birthday, relationship status, etc.)

C: Friends list: Number of friends user is linked to

D: User status: can be updated frequently, friends of user can comment on the user status

E: Recent activity of user: Latest addition of a new friend to friend list, commenting on another friend's status or link, etc.

F: Public comments and messages posted on the "Wall" of the user

Figure 3: Features of News Feed

A: Quizzes taken by friends created by their friends

B: Friends' status and their friends' comments on their status. A "Like" option can be selected to indicate support for the statuses.

C: Events which the user is attending (only for the user's view). Other events such as friends' upcoming birthdays are also published here.

D: Highlights section: Links, pictures and videos which friends in the Friend's list have uploaded.

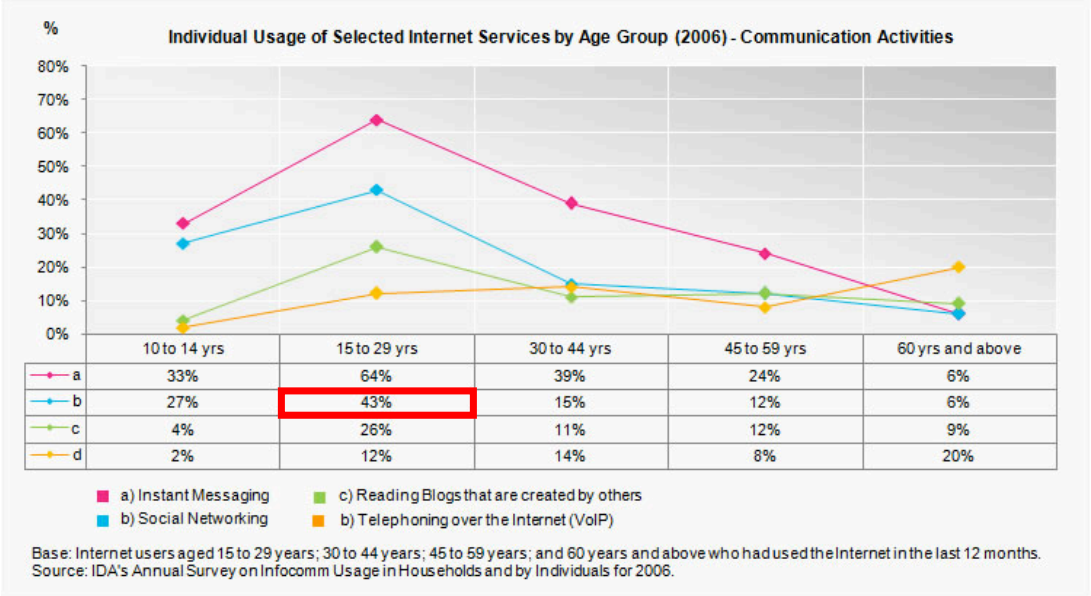

Fig. 4 IDA Annual Survey on Infocomm Usage in Households and by individuals for 2006

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http://www.ida.gov.sg/Publications/20070823161317.aspx